

Average Cost of Production and Gross Profit of Fruit Farming in Nepal 2071/072 (2014/15)



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Ministry of Agriculture Development
Department of Agriculture

**Agribusiness Promotion and Marketing Development Directorate
Market Research & Statistics Management Program**

Hariharbhawan, Lalitpur
www.mrsmp.gov.np

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FOREWORD



Horticultural crops are of great importance for increasing the share of agriculture in Gross Domestic Product of the country. Commercialization of high value and low volume crops farming in the country is getting momentum at present. Majority of the farmers are sifting from the farming of agronomic crops to the horticultural crops nowadays. In this aspect, fruit farming is gaining popularity among the farmers of Terai, mid-hills and High hills of Nepal. Though farmers are trying to be commercial, there is lack of sufficient research and experiment in the fruit farming because these crops are perennial in nature. It is necessary to understand the farm conditions and household characteristics under which they are operating in order to help the farmers in production planning and resource utilization. In order to assist them substantial information has to be generate and analyzed by farm as far as possible. Profitability of the farm business is a pre-condition for attracting farmers for increasing the agricultural production in the country. Comparing the costs and benefits of different crops are necessary to device national policies for making the farm production viable. Survey of the costs of production and then comparison of net returns to the fixed farm resources from different crops fall under the regular activities of Market Research and Statistics Management Program. This is the first attempt to publish the cost of production of fruit crops from this organization. This publication **"Average Cost of Production and Gross Profit of Fruit Farming in Nepal"** is published to help the farmers, agribusiness operators, researchers, academicians, executives and policy makers for the first time.

I am highly grateful to those farmers and agribusiness operators who provided useful information on the survey for this study. I fully appreciate the efforts and hard works of staffs involved in field survey, data analysis and writing this report. Special thanks go to dedicated Agricultural Economist Mr. Maniratna Aryal for his hard work in producing this report. I am also thankful to Senior Statistical Officer Dinesh Bhattarai, and Agricultural Economists Mr. Kishor Parajuli, Mr. Gokarna Sharma Acharya and Mr. Mahendra Kunwar for helping in the field work. I also acknowledge the help of Padmanath Atreya, Fruit Development Directorate and all the staffs under this programme for their direct and indirect help in completing this study.

I welcome reviews, comments and criticisms on this report from the users so that we can improve it further in the coming years.

Netra Bahadur Bhandari,
For Chief

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Average Cost of Production and Gross Profit of Fruit Farming in Nepal

1. INTRODUCTION

Agriculture has become a way of life for 65.6% of the people in Nepal. This sector is contributing nearby 33.6% to the GDP (MoAD, 2014). Moreover, horticulture contributes 14% to the total agricultural gross domestic Product (AGDP). Agricultural diversification and commercialization have drawn attention of the planners and policy makers in terms of generating more income, employment opportunities and biodiversity conservation. The cultivation of high value and low volume crops and optimum utilization of the available resources for production, processing and marketing operations has been conceived for the sustainable development of the nation. A twenty years Agriculture Perspective Plan (APP) was implemented since 1995 with a view to develop overall economy and thus alleviate poverty. High value Crops emphasized under APP were a) apple in the inner Himalayan zone, b) citrus throughout the mid-hills, c) off-season vegetables in the hill as well as terai, d) vegetable seeds in the hills and mountains. Nepal being rich in climatic diversity, we have wider scope for the production of various types of fruits and vegetables. Horticultural crops can contribute in food security, improve nutritional status, and provide employment opportunities, increase income and thus increasing the overall GDP of the country. Compared to the traditional food grain crops like maize, wheat, rice, fruit farming has been found much more profitable. The area under fruits cultivation in Nepal is 1,37,758 (Productive area : 1,01,480 hectare) with total production of 9,38,731 metric tons in 2012/13 (MoAD, 2012/13). Citrus alone contributes about 26.84% of the total fresh fruits production of the country. During fiscal year 2014/15, we have climate as well as land topography very much suitable for fruit cultivation. Thus there is need to explore the potentiality of fruit cultivation in Nepal for export promotion as well as import substitution.

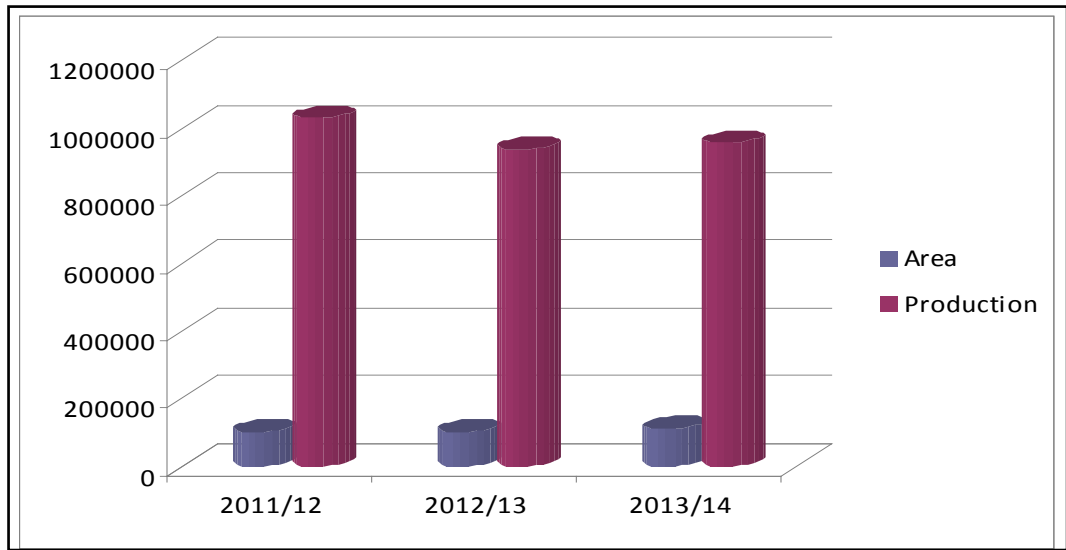


Figure 1 : Productive area and production trend of fruit crops from 2011/12-2013/14 in Nepal

The production of fruit was in decreasing trend irrespective of increasing area (Figure 1). The production was found greater in 2011/12 compared to the succeeding year. The importance of agriculture sector and its overall development is directly linked with the objectives of meeting basic needs of the people. Increasing farm production and farmers' income depend upon how the farmers plan and manage their farms. Farmers usually do production planning and management in their own judgment as per individual's family needs. However, they surely can maximize their farm income by adopting profitable enterprise. Management of resources for maximizing the returns and minimizing costs as well as improving the overall efficiency of farmers is the major concern of all the institutions involved in uplifting agricultural livelihood. Information on production cost is fundamental and is helpful to all the policy makers; agricultural scientist, researchers and farming communities including the farmers need to be aware.

Cost of production is an aggregate of fixed and variable costs incurred in crop production. There exists substantial gap in our knowledge concerning critical aspects of farmers' decision-makers regarding profitability. Managing capabilities

of farmers get improved once they come to realize some facts through available information or documents. The data on cost of production can help farmers in their decision making process during the selection of profitable business. Farmers get knowledge of profitability in growing suited different agro climatic conditions by comparing the cost of production of different crops as well as other farming activities.

The Cost and Benefit analysis of the fruit crop is the first attempt to publish in a report format. Citrus, Apple and Mango were the prime concerned fruit crops of the study and it might help in growing, we have put forward an effort to impart some light this concern as well. Managing capabilities of farmers get improved once they come to realize some facts through available information or documents. The recorded data sets help in recommending the farmers what to grow, how much to plant, which varieties yield higher and subsequent selection of crop types; growing conditions, level of inputs to be used etc. Users get knowledge of profitability of growing different crops suited to their agro-climatic area. Data on the cost of cultivation also play important role in the decision making by the planners and policy makers thereby results in the well being of the farmers. The present report aims to fulfill the above kind of requirement for major agricultural growers concentrating on major fruit crops including Mandarin Orange, Sweet Orange, Mango, Litchi, Kiwi, Pomegranate, Papaya, Apple and Banana.

2. OBJECTIVES

The objective of this study is to provide detail information on production costs and gross profits from fruit farming per hectare of major fruit crops.

The specific objectives are:

- To analyze cost of production of different fruit crops by district.
- To provide data on the cost items and gross profit of major fruit crops under different conditions.
- To estimate benefit cost ratio of different fruit crops.

3. RATIONALE

The yield and input use level, therefore, as it will be noted, will appear to be higher compared to the national average production. Nevertheless, it is hoped that it would be helpful to assess the status of various efficiency indicators and provide basis to judge appropriate resource allocations by farmers so that the effective costs can be reduced to some extent if possible. In addition this report will also assist toward formulation of appropriate price policy. This data will be a great asset to plan their fruit farm in future. On the basis of B/C ratio, farmers can select the most profitable fruit crop, plan accordingly and can get more profit from the selected farm business. Value chain is another important tool, on the basis of production; some processing industries may be established which add value to the product, jobs opportunity and help to reduce the poverty in village level.

4. METHODOLOGY

The districts are selected on the basis of area of production and in consultation with district agriculture development office (DADO). Generally, DADO declared some VDCs as pocket areas of fruit production on the basis of area cultivation. The farms are selected from the pocket area of production. The data was collected by conducting household surveys at different pocket areas of various districts. At least 30 households are taken as a sample farms from one district except pomegranate and kiwi fruits. It also uses the published reports of some District Agriculture Development Offices (DADO) on cost of production of fruit crops as part of their annual program and the input data supplied by the DADO. Similarly, the wholesale price data is used from the reports of Agribusiness Promotion and Market Development Directorate. Secondary information regarding the cost of production and yield of fruit crops were collected from Fruit Development Directorate, Kirtipur. The data were cleaned and processed by the use of Stata software. The results were obtained by the use of Stata and Excel.

5. DEFINITION AND CONCEPTS

The followings are the definitions and concepts used in the study.

5.1 Cost of Production

Cost of production is reported in two forms viz. (a) Total cost per hectare and (b) Cost per plant.

(a) Total Cost

This is the summation of both variable and fixed cost, both costs in cash and kind including household labor incurred during the production process.

(b) Cost per plant

Cost per plant is to be computed on the basis of "total cost" minus "value of by-product" divided by "total number of plants" using the following formula.

$$\text{Cost per Plant} = \frac{\text{Total cost per hectare} - \text{Value of by-products}}{\text{Total number of plants}}$$

However, as no by-products were reported to have been valued, the by-product case is not applicable at this point. So the formula will remain at this moment as:

$$\text{Cost per Plant} = \frac{\text{Total cost per hectare}}{\text{Total number of plants}}$$

5.2 Production Condition

Production condition may vary within and between the districts depending upon its geographical conditions and niches of the respective districts. Varieties of fruit crops (Local/Improved) under which the crop in question is cultivated. Similarly other crops under the study comprises of improved cultivars.

The cost calculation of perennial crop is different than seasonal/annual crops. Generally, the fruit crops are perennial and produce fruits after 4-5 years of plantation. During this period, farmers may make the use of land to cultivate intercrops which are seasonal in nature like cereals and vegetables. So, Upto 4-5 years, the farm is in loss position due to no production and just after 4-5 years, fruit plant start to produce fruits and the farm may proceed in profit condition. So, It is not good to calculate B/C ratio before production. There are four major components to be considered in cost calculation. They are called factors of production like ***Land, Labor, Capital and Management***. These four factors of production were taken as a major part of cost of production calculation.

5.3 Total Variable Cost

Total variable costs are the costs at market price level and incurred both in cash or kind on items such as human labor, bullock labor, seed, manures, irrigation cost, fertilizers, plant protection aids, lease land rent, interest of the capital, Management cost and other miscellaneous cost. Level of these costs varies depending on production locations, technology and scale of production.

5.3.1 Human Labor

Human labor forms one of the important components of cost involved in cost of fruit crop production. It is measured in terms of adult man-day (eight working hours) in the field.

Human labor is expressed in adult man-day. Generally in rural areas, woman workday and child workday is converted in terms of adult man-day, and it is being calculated as it usually practiced.

- 1.25 woman days is equivalent to One-man day; implying 1 woman day = 0.8 man day.
- 2 child-days is equivalent to One-man day; implying 1 child day = 0.5 man day.

A. Own Family Labor

It implies the labor contribution on farm by own family members. It is the main source of farm labor in case of small and medium sized farms. For estimating such costs, family labor has been valued as paid type of labor. Labor taken on exchange basis is also included in family labor.

B. Hired Labor

Hired labor is the non-family labor employed for farm work on payment on wages in cash, kind or both. On the basis of work nature, the wage rate is different between man and women.

5.3.2 Bullock Labor

Bullock labor inputs are measured in terms of bullock day, which means use of a pair of bullock for eight hours. Bullock services costs have been calculated at the current market rate per pair of bullock per day. The cost incurred for ploughman is separately included in the human labor.

Nowadays, bullocks are being replaced by tractor in Terai and hilly areas. The tractor cost is calculated per hour basis. Beside this, for the harvesting of fruit crops, harvesting machines are being used. These machineries will help to save the time and cost compare to human and bullock labor. These machineries are very useful to increase the benefit as well as efficiency.

5.3.3 Manures and Fertilizers

Manures and fertilizers are measured in physical as well as value terms. Marketing of manure is not usual in most of the rural areas of Nepal. As substantial amount of labor is involved in preparation of manure, a minimum cost is assigned. While taking an account of the fertilizers, urea, di-ammonium phosphate (DAP) and muriate of potash (potash) are commonly available in the market and applied in the

farms. The cost of fertilizers has been calculated on the basis of actual price paid by the farmers.

5.3.4Irrigation

Irrigation charge or cost incurred while hiring pump-set has been taken as actual amount paid. The labor involvement in irrigating field is accounted in human labor.

5.3.5Seedlings

In case of fruits, seedlings/saplings from seed or different propagation methods are purchased from government or private nurseries. The seedling price was found lower from government institutions but the quantity is very low where private nurseries have enough numbers but the price was found higher. Generally, the seedlings developed from seed will take 5 years to produce fruits but the seedlings developed from different propagation methods like cutting, layering, grafting etc will take just 3-4 years to produce fruits. The price of seedlings developed from seed and from different propagation methods is different. The seedlings developed from seed were found lower than different propagation method.

5.3.6Other Material Inputs

Material inputs such as pesticides and insecticides have been taken at actual price paid have been evaluated accordingly.

5.4 Fixed Cost

Fixed costs are those that do not vary with size of enterprise and have no bearing upon decisions to increase or decrease production. It includes land revenue, water tax, depreciation as well as tools and implements and interest in fixed assets.

5.4.1 Land Tax

Agricultural land is classified into upland and lowland. The land survey has divided each type of land into 4 categories namely, Abbal, Doyam, Sim and Chahar. The land tax has been taken as actual tax paid by the farmers.

5.4.2 Other Tax

It includes water tax and local tax and other governmental taxes if any levied in some special areas for specific unique purpose.

5.4.3 Depreciation

Depreciation cost is calculated on the basis of purchase value and economic life of an asset. The economic life of an asset is provided by the company. The formula for calculating annual depreciation cost is as follows:

Depreciation Cost = (Purchase value – Scrap value)/Economic life of the farm asset.

For those small agricultural tools and implements, which last around a year scrap, value is not taken into account since they are negligible.

Farm families have agricultural tools and these are used virtually for almost all crops. Depreciation charge for each crop is calculated by the following formulae:

Depreciation cost/Crop = (Area under a crop X Annual depreciation cost)/ Total cropped area

5.4.4 Repairs and Maintenance

Farmers in rural areas pay a fixed amount of their main produce to local blacksmiths who provide regular services of repair and maintaining services of agricultural tools and implements in rural areas. An annual repairing and maintenance cost is calculated by using the following formula:

$$\text{Repair and Maintenance} = \frac{\text{Area under particular crop} \times \text{fruit quantity paid}}{\text{Total Cropped Area}} \times \text{Price/unit}$$

Normally, payments made by the farmer for the repair and maintenance all the year round are proportioned as per the crop duration and the area of cultivation.

5.5 Interest on Working Capital

Interest on the working capital is charged cash expenses incurred are calculated as 10-12 percent per annum (Based on Agricultural Development Bank interest rate) and thus calculated for a particular crop on annual basis and it is incurred in the conditions such as:

- a. Hired human and bullock labor
- b. Hired tractor and pump-set
- c. Other taxes
- d. Expenses incurred on material inputs such as seeds, chemicals, fertilizers, manures, insecticides and pesticides.

5.6 Lease Land Value

Land is another important factor for production. Generally, land leasing is not common in fruit crops but it is better to use lease land value for the calculation of B/C ratio including all factors of production. We have to include the land, labor, capital and management factors for B/C ratio calculation. Then, anyone who is interested to invest in fruit production business, they are well informed and can calculate the real cost of production including all factors of production like family labor cost, land lease value, interest of investment and management cost. In this study, land lease value of hills and mountain is estimated Rs. 1000-1500 per ropani and in case of Terai Rs. 850-1000 per kattha.

5.7 Management Cost

The previous studies of cost of production of cereals and vegetables did not include the management cost. But it is necessary to use the management cost in cost calculation because management is also an important factors of production and fruit crops are perennial in nature. The life span of fruit crop is generally 25-30 years. In this study, Rs. 1500-2000 per month is used as management cost.

5.8 Gross Income

It is the value of the total crop produce (output) including main and by-product multiplied by farm gate price.

Gross Income = Total products × Farm gate price

In case of fruit, the crop started to produce fruits after 3-5 years. Therefore, the gross income will be positive after 5 years only. During the growth period, the business has negative gross income.

5.9 Benefit Cost Ratio

This is the ratio of the value of output including by-product and the total cost of production on farm gate price.

B/C Ratio = Gross Income/Total cost

If the B/C ratio is above 1, then the farm is earning profit. If the B/C ratio is less than 1 or negative, then the farm is in loss. The fruit farm will generate positive B/C ratio after 5 years only.

5.10 Gross Profit at Farm Gate

It is the difference between the gross income to the total cost considering the product price at farm gate.

6. Some important information of fruit crops

6.1 Mandarin Orange (*Citrus reticulata*)



SN	Particulars	Details
1	Altitude and Temperature	950-1500 masl in the mid-hills, 5°C to 35°C
2	Planting	Asar-Shrawan (Aug-Sept), Pit digging before 2-3 months
3	Flowering and Fruiting	March-April (Falgun-Chaitra)
4	Harvesting	November-December (Aswin-Mangsir)
5	Propagation	Grafting, Seed, Layering, Budding
6	Manure and fertilizer	30-50 kg FYM or compost (2 doko), 544 gm DAP, 874 gm Urea and 833 gm Potash
7	Plant Density	300 plants/ha (15 plants/ropani)
8	Spacing	5 m × 6 m
9	Varieties	Dhankuta local, Pokhara local, Local, Nagpur, Ponkan, Kinnow

6.2 Sweet Orange (*Citrus sinensis*)



SN	Particulars	Details
1	Altitude	800-1400 masl in the mid-hills, 5°C to 35°C
2	Planting	Asar-Shrawan (Aug-Sept), Pit digging before 2-3 months
3	Flowering and Fruiting	March-April (Falgun-Chaitra)
4	Harvesting	November-December (Aswin-Poush)
5	Propagation	Grafting, Seed, Budding, Layering
6	Manure and fertilizer	30-50 kg FYM or compost (2 doko), 250 gm DAP, 400 gm Urea and 500 gm Potash
7	Plant Density	300 plants/ha (15 plants/ropani)
8	Spacing	5 m×6 m
9	Varieties	Wasington navel, local, Valencia let

6.3 Apple (*Malus pumila*)



SN	Particulars	Details
1	Altitude	High chilling varieties : 2000-3000 masl Mid chilling varieties : 1500-2000 masl Low chilling varieties : 1200-1500 masl
2	Planting	Poush-Magh (December-January), Pit digging before 2-3 months
3	Flowering and Fruiting	July-August (Shrawan-Bhadra), Feb-March (Magh-Falgun)
4	Harvesting	August-November (Aswin-Mansir)
5	Propagation	Grafting, Seed
6	Manure and fertilizer	30-50 kg FYM or compost (2 doko), 434 gm DAP, 700 gm Urea and 133 gm Potash
7	Plant Density	300 plants/ha (15 plants/ropani)
8	Spacing	6 m×6 m
9	Varieties	High chilling varieties : Golden Delicious, Red Delicious, Royal Delicious, Jonathan, Well spur, Granny Smith, Vance Delicious Mid chilling varieties : Crispin, Red June, Pippin Low chilling varieties : Anna and Vered

6.4 Mango (*Mangifera indica*)



SN	Particulars	Details
1	Altitude	61 masl in the Terai to 600 masl in the mid-hills
2	Planting	Asar-Shrawan (June-Aug), Pit digging before 2-3 months
3	Flowering and Fruiting	March-April (Falgun-Chaitra)
4	Harvesting	June-August (Jestha-Shrawan)
5	Propagation	Enarching, Seed, tongue Grafting, Shaddle grafting
6	Manure and fertilizer	30-50 kg FYM or compost (2 doko), 931 gm DAP, 1434 gm Urea and 1133 gm Potash
7	Plant Density	100-120 plants/ha
8	Spacing	10m×12 m & 8m*8 m (For Dwarf-Amrapali)
9	Varieties	Bombay Green, Dashahari, Maldaha, Amrapali, Kalkattiya, Alphonso, Langra, Chausa, Neelum

6.5 Litchi (*Litchi chinensis*)



SN	Particulars	Details
1	Altitude	61 masl in the Terai to 800 masl in the mid-hills
2	Pit digging and planting	Asar-Shrawan (Aug-Sept)
3	Flowering	March-April (Falgun-Chaitra)
4	Fruiting	June-August (Jestha-Shrawan)
5	Propagation	Air layering, Seed
6	Manure and fertilizer	30-50kg FYM or compost (2 doko), 435 gm DAP, 1134 gm Urea and 1000 gm Potash
7	Plant Density	140-160 plants/ha
8	Spacing	10 m×10 m
9	Varieties	Mujafurpur, Bedana, Colcuttiya, Seedless, Rose Scented, Shahi, Dehra Dun, China

6.6 Kiwi Fruits (*Actinidia deliciosa*)



SN	Particulars	Details
1	Altitude	Mid hills (1000-2200 masl)
2	Planting	Kartik-Mangsir and Poush- Magh (Jan-Feb)
3	Flowering and Fruiting	March-April (Falgun-Chaitra)
4	Harvesting	November-December (Kartik-Mangsir)
5	Propagation	Splice/bench grafting, Cutting
6	Manure and fertilizer	20-30kg FYM or (1 doko), 5 kg wood ash, 500g bone-meal
7	Varieties	Aalisan, Heyward (Female), Tomore (Male), Monty, Bruno
8	Male : Female ratio	1:8
9	Plant Density	400 plants/ha (20 plants/ropani)
10	Spacing	6 m×4 m

6.7 Banana (*Musa paradisiaca*)



SN	Particulars	Details
1	Altitude	60-800 masl in the Terai to mid hills
2	Planting	Asar-Shrawan (July-August)
3	Flowering and Fruiting	July-August (Shrawan-Bhadra), Throughout the year
4	Harvesting	September-November (Kartik-Mansir)
5	Propagation	Sucker, Tissue culture
6	Manure and fertilizer	20-30 kg FYM or compost (1 doko), 239 gm DAP, 341 gm Urea and 416 gm Potash
7	Plant Density	1000 plants/ha (50 plants/ropani)
8	Spacing	2m×2m
9	Varieties	William Hybrid, Jhapali Malbhog, Local, Robusta, Harichal, Malbhog

6.8 Papaya (*Carica papaya*)



SN	Particulars	Details
1	Altitude	60-800 masl in the Terai to mid hills
2	Planting	Poush-Magh (December-January), May-June, Aug-Sept
3	Flowering and Fruiting	July-August (Shrawan-Bhadra)
4	Harvesting	September-November (Kartik-Poush)
5	Propagation	Seed, Tissue culture
6	Manure and fertilizer	20-30 kg FYM or compost (1 doko), 543 gm DAP, 330 gm Urea and 833 gm Potash
7	Plant Density	1000 plants/ha (50 plants/ropani)
8	Spacing	2m×2m
9	Varieties	Wasington, Honeydew, Koyembutor, Pusa Delicious, Pusa Dwarf, Solo

6.9 Pomegranate (*Punica granatum*)



SN	Particulars	Details
1	Altitude	500-1600 masl in the mid hills
2	Planting	Major season : Kartik-Mangsir (Sept-Nov) And Poush-Magh (December-January)
3	Flowering and Fruiting	Ambe Bahar : Poush-Magh (December-January) Mrig Bahar : Jestha-Asad Hasta Bahar : Aswin-Kartik Main season : July-August (Shrawan-Bhadra)
4	Harvesting	After 4-5 months of flowering
5	Propagation	Grafting, Seed, Layering, Cutting
6	Manure and fertilizer	30-50 kg FYM or compost (2 doko), 543 gm DAP, 874 gm Urea and 417 gm Potash
7	Plant Density	300 plants/ha (15 plants/ropani)
8	Spacing	5m*5m
9	Varieties	Bedena, Mridula, Ganesh
7	Plant Density	300 plants/ha (15 plants/ropani)
8	Spacing	5m*5 m
9	Varieties	Bedena, Mridula, Ganesh

7. Description of the results

Land lease, interest on variable cost and management cost has higher cost percentage (42%) compared to others followed by labor (29%), seedling cost (10%), manures/fertilizers (7%), plant protection (6%) and miscellaneous (6%) (Fig 2). The Benefit cost ratio is ranging from 1 to 5. It means the profit is 5 times more than the total cost. If there is the total cost of Rs 1,00,000 then, the profit will Rs 5,00,000 for 5 B/C ratio. It depends upon the fruit type and life span. In this study, Kiwi has higher B/C ratio followed by banana, and papaya. Kiwi is new fruit for Nepal and has higher farm gate price per Kg. B/C ratio of the fruits crop varied from 1.86 to 3.66 showing their relatively higher level of profitability in terms of investment (Economic Aspects of Fruit And Vegetable Production, 1992).

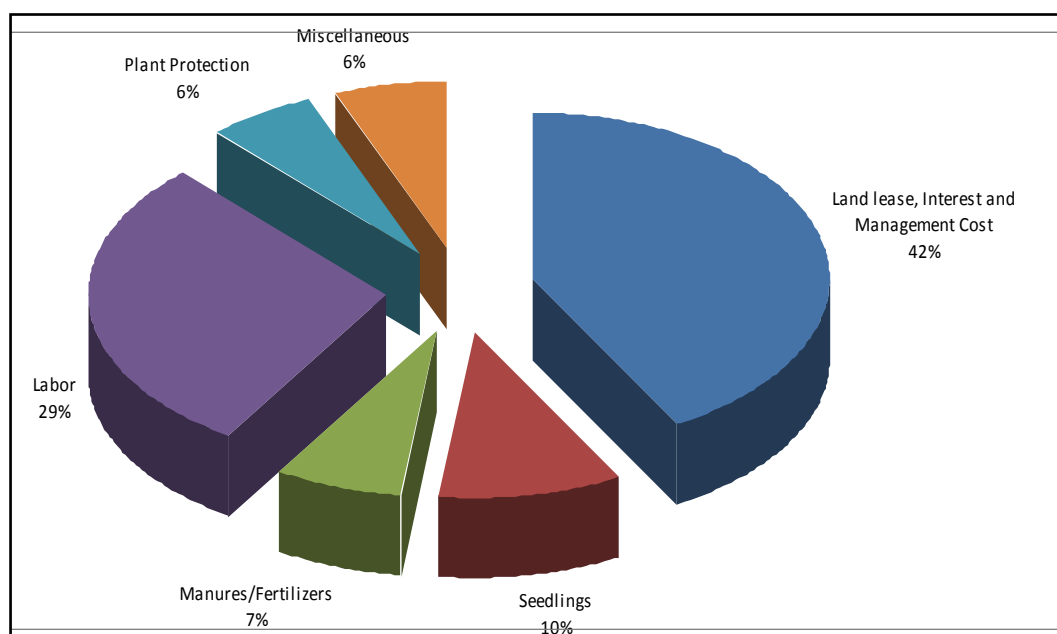


Figure 2 : Expenditure percentage on different items for production cost of fruit crops

Generally, fruit crops are perennial and have long life span of around 30-40 years. Majority of the fruit crops start to fruiting after 4 years of planting. Therefore, the farm is in loss upto 5 years and started to gain profit after 5 years where B/C ratio

was found greater than 1. The farm will produce optimum production around 9-10 years of planting where farmers can get the highest B/C ratio. The payback period of the farm was found at 9-10 years. Then, the farm is in profit throughout the life span of the crop. In this study, interest rate is used 11% levied by Agriculture Development Bank limited of Nepal. Interest is not added after 10 years on variable cost because the payback period of the farm was found at 9-10 years except banana and papaya.

The farm has production of 80% of the plant population at the start of the production and production declines by 10-20% after 15 years of plant age.

8. Conclusion and Recommendation

From the results, we can conclude that the fruit farm business was found profitable. The B/C ratio from fruit was found higher (1-5) compared to cereals (1-2) and vegetables (1-3). It means the profit gained from fruit business is higher than cereals and vegetables. The fruit farm business can earn more profit if we start to add value by processing in future. This business will provide more employment opportunities through value addition by establishing processing industry in future. These fruits are perishable in nature but we can extend their life up to six months after harvesting by the use of cold store, cellar store and other advanced techniques which help to generate higher price than the seasonal price. This means, the B/C ratio will be higher than the calculated which focus on farm gate price in this study. We will try to calculate the B/C ratio in both condition like farm gate price and market price in next study.

This study and the data will provide base for insurance schemes both for farmers and insurance company. Unfortunately, this study did not cover the insurance premium cost in this report. We will try to adjust the insurance premium cost in future study as a cost for production.

On the basis of the results obtained from this study, the ministry of agriculture

development and department of agriculture will plan the different programs for farmers. The government should focus on production of sufficient seedling as per the demand of farmers and should supply on time of plantation. The seedling produced from government farms is cheaper as compared to private nurseries. This seedling cost would play a vital role to reduce the cost and increase the B/C ratio. Besides this, the production is earlier from propagated seedlings than seed. The program should focus to increase the area of production including high yielding varieties to increase the B/C ratio or higher profits for farmers. The center offices should focus on reducing the interest cost by providing interest subsidy in the fruit business. The labor should be replaced by machines to reduce the cost and increase profit. The cost will be reduced by 40% if the machines replaced labor (Gautam, 2012). Therefore, the government should provide subsidy on machines and encourage the farmers to make the use of machines in plantation to harvesting.

Layout/Spacing and Training & Prunning are missing at farmers level. If the farmers are following the scientific layout/Spacing, they will get more profit form the fruit farming. Similarly, farmers should follow the training and Purning practices to earn more profit.

B. APPENDICES

6.1 AVERAGE COST OF PRODUCTION AND GROSS PROFIT PER HECTARE

Crop : Mandarin Orange
Variety : Dhankuta Local

District : Gulmi
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				106000			79425
a.	Human labor	Day	60	350	21000	40	350	14000
b.	Bullock labor	Day	7	800	5600	2	800	1600
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	275	2750	15	275	4125
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1200	4800			
g.	Sapling	Number	330	35	11550			0
h.	Manure	Kg	4500	1.5	6750	6000	1.5	9000
i.	Fertilizer							
	Urea	Kg	25	25	625			
	DAP	Kg	18	50	900			
	Potash	Kg	15	35	525			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			4000			4000
l.	Training and Pruning					4	800	3200
m.	Equipments	Number	4	1000	4000			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11660			8736.75
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			119460			89961.75

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO								
SN	Year	Investment Phase	2	3	4	5	6	7
1	Production (Kg/plant)				5	16	25	40
2	Production (Kg/ha)				1300	4160	6500	10400
3	Total income (Rs)				39000	124800	195000	312000
4	Variable cost	117660	88161.75	96977.925	106675.718	117343.3	129077.6	141985.38
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800
6	Total cost	119460	89961.75	98777.925	108475.718	119143.3	130877.6	143785.38
7	Profit/Loss	-119460	-89961.8	-98777.93	-69475.718	5656.711	64122.38	168214.62
8	B/C ratio					1.05	1.49	2.17

SN	Year			8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)			40	50	50	50	40
2	Production (Kg/ha)			10400	13000	13000	13000	10400
3	Total income (Rs)			312000	390000	390000	390000	312000
4	Variable cost			156183.92	171802.31	188982.5	188982.5	188982.54
5	Fixed cost			1800	1800	1800	1800	1800
6	Total cost			157983.92	173602.31	190782.5	190782.5	190782.54
7	Profit/Loss			154016.08	216397.69	199217.5	199217.5	121217.46
8	B/C ratio			1.97	2.25	2.04	2.04	1.64

Condition for Mandarin Orange					
Human labor Requirement (First year)					
1	Activities	Units	Labor		
1.1	Land leveling, pit digging	Number	30		
1.2	Manuring and pit filling	Number	15		
1.3	Seedling planting	Number	5		
1.4	Irrigation	Number	5		
1.5	Mulching	Number	5		
	Total		60		
2	Materials Utilization				
2.1	Manure	Kg/Plant	15-30		
2.2	Chemical fertilizer	Kg/Plant	0.3		
2.3	Micronutrient	Kg/Plant	0.2-1		
2.4	No of seedling	Plants/ha	300	Mortality	10%
3	Life span	Years	16-25		
4	Production start				
4.1	Grafted seedlings	Years	4		
4.2	Seed	Years	5		
4.3	Secondary production		Vegetables		
Note : Benefit and cost are equal for secondary crops					
5	Production Process				
5.1	No of Plants in production	Number	260		
5.2	Price	Rs/Kg	30		

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mandarine Orange
Variety : Pokhara Local

District : Shyanja
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				100782			77550
a.	Human labor	Day	57	350	19950	36	350	12600
b.	Bullock labor	Day	7	800	5600	1	800	800
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	150	1500	15	150	2250
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1000	4000			
g.	Sapling	Number	330	30	9900			0
h.	Manure	Kg	4500	1.4	6300	6000	1.4	8400
i.	Fertilizer							
	Urea	Kg	28	25	700			
	DAP	Kg	18	50	900			
	Potash	Kg	12	36	432			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			4500			5000
l.	Training and Pruning					5	1000	5000
m	Equipments	Number	5	800	4000			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11086.02			8530.5
p.	Others	Rs			2500			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			113668.02			87880.5

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO								
SN	Year	Investment Phase	2	3	4	5	6	7
1	Production (Kg/plant)				5	20	35	45
2	Production (Kg/ha)				1300	5200	9100	11700
3	Total income (Rs)				36400	145600	254800	327600
4	Variable cost	111868.02	86080.5	94688.55	104157.405	114573.1	126030.5	138633.51
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800
6	Total cost	113668.02	87880.5	96488.55	105957.405	116373.1	127830.5	140433.51
7	Profit/Loss	-113668.02	-87880.5	-96488.55	-69557.405	29226.85	126969.5	187166.49
8	B/C ratio					1.25	1.99	2.33

SN	Year			8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)			55	50	50	50	40
2	Production (Kg/ha)			14300	13000	13000	13000	10400
3	Total income (Rs)			400400	364000	364000	364000	291200
4	Variable cost			152496.86	167746.542	184521.2	184521.2	184521.2
5	Fixed cost			1800	1800	1800	1800	1800
6	Total cost			154296.86	169546.542	186321.2	186321.2	186321.2
7	Profit/Loss			246103.14	194453.458	177678.8	177678.8	104878.8
8	B/C ratio			2.59	2.15	1.95	1.95	1.56

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mandarin Orange
Variety : Local

District : Dailekh
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				106634			79400
a.	Human labor	Day	55	350	19250	38	350	13300
b.	Bullock labor	Day	8	750	6000	1	750	750
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	300	3000	15	300	4500
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1500	4500			
g.	Sapling	Number	330	40	13200			0
h.	Manure	Kg	4500	1.6	7200	6000	1.6	9600
i.	Fertilizer							
	Urea	Kg	28	26	728			
	DAP	Kg	20	50	1000			
	Potash	Kg	12	38	456			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					5	850	4250
m.	Equipments	Number	4	1200	4800			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11729.74			8734
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			120163.74			89934

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				8	20	35	45		
2	Production (Kg/ha)			2080	5200	9100	11700			
3	Total income (Rs)			66560	166400	291200	374400			
4	Variable cost	118363.74	88134	96947.4	106642.14	117306.4	129037	141940.69		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	120163.74	89934	98747.4	108442.14	119106.4	130837	143740.69		
7	Profit/Loss	-120163.74	-89934	-98747.4	-41882.14	47293.65	160363	230659.31		
8	B/C ratio					1.40	2.23	2.60		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	45	45	45	45	36
2	Production (Kg/ha)	11700	11700	11700	11700	9360
3	Total income (Rs)	374400	374400	374400	374400	299520
4	Variable cost	156134.76	171748.233	188923.1	188923.1	188923.06
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	157934.76	173548.233	190723.1	190723.1	190723.06
7	Profit/Loss	216465.24	200851.767	183676.9	183676.9	108796.94
8	B/C ratio	2.37	2.16	1.96	1.96	1.57

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mandarine Orange
Variety : Local

District : Kavre
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				108615			82475
a.	Human labor	Day	56	400	22400	37	400	14800
b.	Bullock labor	Day	8	1000	8000	2	1000	2000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	225	2250	15	225	3375
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1200	4800			
g.	Sapling	Number	330	30	9900			0
h.	Manure	Kg	4500	1.8	8100	6000	1.8	10800
i.	Fertilizer							
	Urea	Kg	25	25	625			
	DAP	Kg	20	50	1000			
	Potash	Kg	15	36	540			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			4000
l.	Training and Pruning					4	1000	4000
m.	Equipments	Number	5	900	4500			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11947.65			9072.25
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			122362.65			93347.25

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO									
SN	Year	Investment Phase	2	3	4	5	6	7	
1	Production (Kg/plant)				7	15	25	35	
2	Production (Kg/ha)			1820		3900	6500	9100	
3	Total income (Rs)			58240		124800	208000	291200	
4	Variable cost	120562.65	91547.25	100701.98	110772.173	121849.4	134034.3	147437.76	
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800	
6	Total cost	122362.65	93347.25	102501.98	112572.173	123649.4	135834.3	149237.76	
7	Profit/Loss	-122362.65	-93347.3	-102502	-54332.173	1150.61	72165.67	141962.24	
8	B/C ratio					1.01	1.53	1.95	
SN	Year			8	9	10	11-15 Yr	16-25 Yr	
1	Production (Kg/plant)			40	45	45	45	36	
2	Production (Kg/ha)			10400	11700	11700	11700	9360	
3	Total income (Rs)			332800	374400	374400	374400	299520	
4	Variable cost			162181.54	178399.692	196239.7	196239.7	196239.66	
5	Fixed cost			1800	1800	1800	1800	1800	
6	Total cost			163981.54	180199.692	198039.7	198039.7	198039.66	
7	Profit/Loss			168818.46	194200.308	176360.3	176360.3	101480.34	
8	B/C ratio			2.03	2.08	1.89	1.89	1.51	

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mandarin Orange
Variety : Dhankuta Local

District : Ramechhap
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				102258			77300
a.	Human labor	Day	56	350	19600	35	350	12250
b.	Bullock labor	Day	7	800	5600	1	800	800
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	250	2500	15	250	3750
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1000	4000			
g.	Sapling	Number	330	35	11550			0
h.	Manure	Kg	4500	1.5	6750	6000	1.5	9000
i.	Fertilizer							
	Urea	Kg	28	26	728			
	DAP	Kg	18	50	900			
	Potash	Kg	10	38	380			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			4000
l.	Training and Pruning					4	1000	4000
m.	Equipments	Number	5	850	4250			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11248.38			8503
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			115306.38			87603

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mandarin Orange
Variety : Dhankuta Local

District : Dhankuta
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				101770			79275
a.	Human labor	Day	58	375	21750	38	375	14250
b.	Bullock labor	Day	8	800	6400	1	800	800
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	275	2750	15	275	4125
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1000	4000			
g.	Sapling	Number	330	25	8250			0
h.	Manure	Kg	4500	1.6	7200	6000	1.6	9600
i.	Fertilizer							
	Urea	Kg	25	26	650			
	DAP	Kg	20	50	1000			
	Potash	Kg	15	38	570			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Training and Pruning					4	1000	4000
m.	Equipments	Number	4	800	3200			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11194.7			8720.25
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			114764.7			89795.25

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				5	16	28	36		
2	Production (Kg/ha)			1300	4160	7280	9360			
3	Total income (Rs)			39000	124800	218400	280800			
4	Variable cost	112964.7	87995.25	96794.775	106474.253	117121.7	128833.8	141717.23		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	114764.7	89795.25	98594.775	108274.253	118921.7	130633.8	143517.23		
7	Profit/Loss	-114764.7	-89795.3	-98594.78	-69274.253	5878.322	87766.15	137282.77		
8	B/C ratio					1.05	1.67	1.96		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	40	45	48	46	36.8
2	Production (Kg/ha)	10400	11700	12480	11960	9568
3	Total income (Rs)	312000	351000	374400	358800	287040
4	Variable cost	155888.95	171477.848	188625.6	188625.6	188625.63
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	157688.95	173277.848	190425.6	190425.6	190425.63
7	Profit/Loss	154311.05	177722.152	183974.4	168374.4	96614.367
8	B/C ratio	1.98	2.03	1.97	1.88	1.51

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mandarine Orange
Variety : Local

District : Dhading
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				104385			77550
a.	Human labor	Day	59	350	20650	37	350	12950
b.	Bullock labor	Day	7	1000	7000	1	1000	1000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	250	2500	12	250	3000
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1200	4800			
g.	Sapling	Number	330	30	9900			0
h.	Manure	Kg	4500	1.6	7200	6000	1.6	9600
i.	Fertilizer							
	Urea	Kg	35	25	875			
	DAP	Kg	22	50	1100			
	Potash	Kg	10	36	360			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3500
l.	Training and Pruning					4	1000	4000
m.	Equipments	Number	4	1000	4000			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11482.35			8530.5
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			117667.35			87880.5

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				5	18	25	35		
2	Production (Kg/ha)			1300	4680	6500	9100			
3	Total income (Rs)			45500	163800	227500	318500			
4	Variable cost	115867.35	86080.5	94688.55	104157.405	114573.1	126030.5	138633.51		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	117667.35	87880.5	96488.55	105957.405	116373.1	127830.5	140433.51		
7	Profit/Loss	-117667.35	-87880.5	-96488.55	-60457.405	47426.85	99669.54	178066.49		
8	B/C ratio					1.41	1.78	2.27		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	40	45	45	45	36
2	Production (Kg/ha)	10400	11700	11700	11700	9360
3	Total income (Rs)	364000	409500	409500	409500	327600
4	Variable cost	152496.86	167746.542	184521.2	184521.2	184521.2
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	154296.86	169546.542	186321.2	186321.2	186321.2
7	Profit/Loss	209703.14	239953.458	223178.8	223178.8	141278.8
8	B/C ratio	2.36	2.42	2.20	2.20	1.76

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mandarin Orange
Variety : Local

District : Gorkha
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
a.	Human labor	Day	55	350	19250	35	350	12250
b.	Bullock labor	Day	8	900	7200	2	900	1800
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	225	2250	15	225	3375
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1200	4800			
g.	Sapling	Number	330	30	9900			0
h.	Manure	Kg	4500	1.5	6750	6000	1.5	9000
i.	Fertilizer							
	Urea	Kg	30	25	750			
	DAP	Kg	18	50	900			
	Potash	Kg	10	36	360			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			4500			5000
l.	Training and Pruning					5	1000	5000
m.	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11567.6			8791.75
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			118527.6			90516.75

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				5	15	25	40		
2	Production (Kg/ha)			1300	3900	6500	10400			
3	Total income (Rs)			41600	124800	208000	332800			
4	Variable cost	116727.6	88716.75	97588.425	107347.268	118082	129890.2	142879.21		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	118527.6	90516.75	99388.425	109147.268	119882	131690.2	144679.21		
7	Profit/Loss	-118527.6	-90516.8	-99388.43	-67547.268	4918.006	76309.81	188120.79		
8	B/C ratio					1.04	1.58	2.30		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	40	60	60	60	48
2	Production (Kg/ha)	10400	15600	15600	15600	12480
3	Total income (Rs)	332800	499200	499200	499200	399360
4	Variable cost	157167.13	172883.848	190172.2	190172.2	190172.23
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	158967.13	174683.848	191972.2	191972.2	191972.23
7	Profit/Loss	173832.87	324516.152	307227.8	307227.8	207387.77
8	B/C ratio	2.09	2.86	2.60	2.60	2.08

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mandarin Orange
Variety : Local

District : Myagdi
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				103270			77225
a.	Human labor	Day	58	325	18850	35	325	11375
b.	Bullock labor	Day	8	1000	8000	1	1000	1000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	250	2500	15	250	3750
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1500	4500			
g.	Sapling	Number	330	35	11550			0
h.	Manure	Kg	4500	1.6	7200	6000	1.6	9600
i.	Fertilizer							
	Urea	Kg	30	26	780			
	DAP	Kg	10	50	500			
	Potash	Kg	5	38	190			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Training and Pruning					5	1000	5000
m.	Equipments	Number	4	800	3200			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11359.7			8494.75
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			116429.7			87519.75

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	8	9
1	Production (Kg/plant)				10	15	25	35		
2	Production (Kg/ha)				2600	3900	6500	9100		
3	Total income (Rs)				78000	117000	195000	273000		
4	Variable cost	114629.7	85719.75	94291.725	103720.898	114093	125502.3	138052.51		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	116429.7	87519.75	96091.725	105520.898	115893	127302.3	139852.51		
7	Profit/Loss	-116429.7	-87519.8	-96091.73	-27520.898	1107.013	67697.71	133147.49		
8	B/C ratio					1.01	1.53	1.95		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	40	45	45	45	36
2	Production (Kg/ha)	10400	11700	11700	11700	9360
3	Total income (Rs)	312000	351000	351000	351000	280800
4	Variable cost	151857.77	167043.543	183747.9	183747.9	183747.9
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	153657.77	168843.543	185547.9	185547.9	185547.9
7	Profit/Loss	158342.23	182156.457	165452.1	165452.1	95252.103
8	B/C ratio	2.03	2.08	1.89	1.89	1.51

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mandarin Orange
Variety : Pokhara Local

District : Palpa
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				101872			77500
a.	Human labor	Day	56	350	19600	35	350	12250
b.	Bullock labor	Day	6	1000	6000	1	1000	1000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	250	2500	15	250	3750
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1500	4500			
g.	Sapling	Number	330	35	11550			0
h.	Manure	Kg	4500	1.5	6750	6000	1.5	9000
i.	Fertilizer							
	Urea	Kg	32	26	832			
	DAP	Kg	15	50	750			
	Potash	Kg	5	38	190			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Training and Pruning					5	1000	5000
m.	Equipments	Number	4	800	3200			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11205.92			8525
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			114877.92			87825

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				8	15	24	36		
2	Production (Kg/ha)				2080	3900	6240	9360		
3	Total income (Rs)				62400	117000	187200	280800		
4	Variable cost	113077.92	86025	94627.5	104090.25	114499.3	125949.2	138544.12		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	114877.92	87825	96427.5	105890.25	116299.3	127749.2	140344.12		
7	Profit/Loss	-114877.92	-87825	-96427.5	-43490.25	700.725	59450.8	140455.88		
8	B/C ratio					1.01	1.47	2.00		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	40	45	48	46	36.8
2	Production (Kg/ha)	10400	11700	12480	11960	9568
3	Total income (Rs)	312000	351000	374400	358800	287040
4	Variable cost	152398.54	167638.389	184402.2	184402.2	184402.23
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	154198.54	169438.389	186202.2	186202.2	186202.23
7	Profit/Loss	157801.46	181561.611	188197.8	172597.8	100837.77
8	B/C ratio	2.02	2.07	2.01	1.93	1.54

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mandarin Orange
Variety : Local

District : Rolpa
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				100756			77235
a.	Human labor	Day	57	360	20520	36	360	12960
b.	Bullock labor	Day	6	1000	6000	1	1000	1000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	225	2250	15	225	3375
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	2	1600	3200			
g.	Sapling	Number	330	35	11550			0
h.	Manure	Kg	4500	1.4	6300	6000	1.4	8400
i.	Fertilizer							
	Urea	Kg	32	26	832			
	DAP	Kg	12	50	600			
	Potash	Kg	8	38	304			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Training and Pruning					5	1000	5000
m	Equipments	Number	4	800	3200			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11083.16			8495.85
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			113639.16			87530.85

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				6	15	28	36		
2	Production (Kg/ha)			1560	3900	7280	9360			
3	Total income (Rs)			46800	117000	218400	280800			
4	Variable cost	111839.16	85730.85	94303.935	103734.329	114107.8	125518.5	138070.39		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	113639.16	87530.85	96103.935	105534.329	115907.8	127318.5	139870.39		
7	Profit/Loss	-113639.16	-87530.9	-96103.94	-58734.329	1092.239	91081.46	140929.61		
8	B/C ratio					1.01	1.72	2.01		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	40	42	48	46	36.8
2	Production (Kg/ha)	10400	10920	12480	11960	9568
3	Total income (Rs)	312000	327600	374400	358800	287040
4	Variable cost	151877.43	167065.173	183771.7	183771.7	183771.69
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	153677.43	168865.173	185571.7	185571.7	185571.69
7	Profit/Loss	158322.57	158734.827	188828.3	173228.3	101468.31
8	B/C ratio	2.03	1.94	2.02	1.93	1.55

6.2. AVERAGE COST OF PRODUCTION AND GROSS PROFIT PER HECTARE

Crop : Sweet Orange
Variety : Local

District : Sindhuli
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				100800			77200
a.	Human labor	Day	55	375	20625	36	375	13500
b.	Bullock labor	Day	6	1000	6000	1	1000	1000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	200	2000	15	200	3000
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1000	4000			
g.	Sapling	Number	330	30	9900			0
h.	Manure	Kg	4500	1.5	6750	6000	1.5	9000
i.	Fertilizer							
	Urea	Kg	15	26	390			
	DAP	Kg	25	50	1250			
	Potash	Kg	5	37	185			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			4000
l.	Training and Pruning					4	800	3200
m.	Equipments	Number	4	800	3200			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11088			8492
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1700			1700
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			400			400
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			113588			87392

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO								
SN	Year	Investment Phase	2	3	4	5	6	7
1	Production (Kg/plant)				5	16	25	40
2	Production (Kg/ha)				1300	4160	6500	10400
3	Total income (Rs)				49400	158080	247000	395200
4	Variable cost	111888	85692	94261.2	103687.32	114056.1	125461.7	138007.82
5	Fixed cost	1700	1700	1700	1700	1700	1700	1700
6	Total cost	113588	87392	95961.2	105387.32	115756.1	127161.7	139707.82
7	Profit/Loss	-113588	-87392	-95961.2	-55987.32	42323.95	119838.3	255492.18
8	B/C ratio					1.37	1.94	2.83

SN	Year		8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)		45	45	45	48	38.4
2	Production (Kg/ha)		11700	11700	11700	12480	9984
3	Total income (Rs)		444600	444600	444600	474240	379392
4	Variable cost		151808.61	166989.466	183688.4	183688.4	183688.41
5	Fixed cost		1700	1700	1700	1700	1700
6	Total cost		153508.61	168689.466	185388.4	185388.4	185388.41
7	Profit/Loss		291091.39	275910.534	259211.6	288851.6	194003.59
8	B/C ratio		2.90	2.64	2.40	2.56	2.05

Condition for Sweet Orange Human labor Requirement (First year)				
Activities	Units	Labor		
Land leveling, pit digging	Number	25		
Manuring and pit filling	Number	15		
Seedling planting	Number	5		
Irrigation	Number	5		
Mulching	Number	5		
Total		55		
Materials Utilization				
Manure	Kg/Plant	15-40		
Chemical fertilizer	Kg/Plant	0.2		
Micronutrient	Kg/Plant	0.1-1		
No of seedling	Plants/ha	300	Mortality	10%
Life span	Years	16-25		
Production start				
Grafted seedlings	Years	3		
By seed	Years	5		
Secondary production		Vegetables		
Note : Benefit and cost are equal for secondary crops				
Production Process				
No of Plants in production	Number	260	500-600 fruits per plant	
Price	Rs/Kg	38		

6.2. AVERAGE COST OF PRODUCTION AND GROSS PROFIT PER HECTARE

Crop : Sweet Orange
Variety : Local

District : Ramechhap
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				98592			74525
a.	Human labor	Day	56	375	21000	32	375	12000
b.	Bullock labor	Day	5	1000	5000	1	1000	1000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	175	1750	15	175	2625
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1200	3600			
g.	Sapling	Number	330	30	9900			0
h.	Manure	Kg	4500	1.4	6300	6000	1.4	8400
i.	Fertilizer							
	Urea	Kg	22	26	572			
	DAP	Kg	28	50	1400			
	Potash	Kg	10	37	370			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Training and Pruning					4	1000	4000
m.	Equipments	Number	4	800	3200			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				10845.12			8197.75
p.	Others	Rs			2500			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			111237.12			84522.75

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				5	18	30	40		
2	Production (Kg/ha)				1300	4680	7800	10400		
3	Total income (Rs)				45500	163800	273000	364000		
4	Variable cost	109437.1	82722.75	90995.025	100094.528	110104	121114.4	133225.82		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	111237.1	84522.75	92795.025	101894.528	111904	122914.4	135025.82		
7	Profit/Loss	-111237	-84522.8	-92795.03	-56394.5275	51896.02	150085.6	228974.18		
8	B/C ratio					1.46	2.22	2.70		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	46	48	45	45	36
2	Production (Kg/ha)	11960	12480	11700	11700	9360
3	Total income (Rs)	418600	436800	409500	409500	327600
4	Variable cost	146548.4	161203.237	177323.6	177323.6	177323.56
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	148348.4	163003.237	179123.6	179123.6	179123.56
7	Profit/Loss	270251.6	273796.763	230376.4	230376.4	148476.44
8	B/C ratio	2.82	2.68	2.29	2.29	1.83

6.2. AVERAGE COST OF PRODUCTION AND GROSS PROFIT PER HECTARE

Crop : Sweet Orange
Variety : Local

District : Shyanja
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				105098			78425
a.	Human labor	Day	58	400	23200	35	400	14000
b.	Bullock labor	Day	6	1000	6000	1	1000	1000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	225	2250	15	225	3375
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1200	3600			
g.	Sapling	Number	330	35	11550			0
h.	Manure	Kg	4200	1.6	6720	5500	1.6	8800
i.	Fertilizer							
	Urea	Kg	18	26	468			
	DAP	Kg	25	50	1250			
	Potash	Kg	10	36	360			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					5	850	4250
m.	Equipments	Number	4	800	3200			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11560.78			8626.75
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			118458.78			88851.75

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	8	9
1	Production (Kg/plant)				8	16	28	32		
2	Production (Kg/ha)			2080	4160	7280	8320			
3	Total income (Rs)			7280	14560	25480	29120			
4	Variable cost	116658.8	87051.75	95756.925	105332.618	115865.9	127452.5	140197.71		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	118458.8	88851.75	97556.925	107132.618	117665.9	129252.5	141997.71		
7	Profit/Loss	-118459	-88851.8	-97556.93	-34332.6175	27934.12	125547.5	149202.29		
8	B/C ratio					1.24	1.97	2.05		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	38	42	45	46	36.8
2	Production (Kg/ha)	9880	10920	11700	11960	9568
3	Total income (Rs)	345800	382200	409500	418600	334880
4	Variable cost	154217.49	169639.234	186603.2	186603.2	186603.16
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	156017.49	171439.234	188403.2	188403.2	188403.16
7	Profit/Loss	189782.51	210760.766	221096.8	230196.8	146476.84
8	B/C ratio	2.22	2.23	2.17	2.22	1.78

6.2. AVERAGE COST OF PRODUCTION AND GROSS PROFIT PER HECTARE

Crop : Apple
Variety : Golden Delicious

District : Mustang
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				116050			83850
a.	Human labor	Day	75	250	18750	42	250	10500
b.	Bullock labor	Day	6	800	4800	2	800	1600
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	250	2500	15	250	3750
e.	Fencing	Lum	0	0	10000			
f.	Layout	Day	4	1200	4800			
g.	Sapling	Number	330	40	13200			0
h.	Manure	Kg	4500	2	9000	6000	2	12000
i.	Fertilizer							
	Urea	Kg						
	DAP	Kg						
	Potash	Kg						
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			4500			5000
l.	Training and Pruning					5	1500	7500
m	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				13926			10062
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			131776			95712

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO								
	No of plants in production :				240	Price (Rs/Kg) :		45
SN	Year	Investment Phase	2	3	4	5	6	7
1	Production (Kg/plant)				5	15	25	35
2	Production (Kg/ha)				1200	3600	6000	8400
3	Total income (Rs)				54000	162000	270000	378000
4	Variable cost	129976	93912	103303.2	113633.52	124996.9	137496.6	151246.22
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800
6	Total cost	131776	95712	105103.2	115433.52	126796.9	139296.6	153046.22
7	Profit/Loss	-131776	-95712	-105103.2	-61433.52	35203.13	130703.4	224953.78
8	B/C ratio					1.28	1.94	2.47

SN	Year			8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)			40	45	45	45	36
2	Production (Kg/ha)			9600	10800	10800	10800	8640
3	Total income (Rs)			432000	486000	486000	486000	388800
4	Variable cost			166370.84	183007.92	201308.7	221439.6	243583.54
5	Fixed cost			1800	1800	1800	1800	1800
6	Total cost			168170.84	184807.92	203108.7	223239.6	245383.54
7	Profit/Loss			263829.16	301192.08	282891.3	262760.4	143416.46
8	B/C ratio			2.57	2.63	2.39	2.18	1.58

Condition for Apple				
Human labor Requirement (First year)				
Activities	Units	Labor		
Land leveling, pit digging	Number	40		
Manuring and pit filling	Number	15		
Seedling planting	Number	5		
Irrigation	Number	5		
Mulching	Number	10		
Total		75		
Materials Utilization				
Manure	Kg/Plant	25-40		
Micronutrient	Kg/Plant	0.1-1		
No of seedling	Plants/ha	300	Mortality	10%
Life span	Years	25-40		
Production start				
Grafted seedlings	Years	3		
By seed	Years	5		
Secondary production		Vegetables		
Note : Benefit and cost are equal for secondary crops				
Production Process				
No of Plants in production	Number	240		
Price	Rs/Kg	45		

6.2. AVERAGE COST OF PRODUCTION AND GROSS PROFIT PER HECTARE

Crop : Apple
Variety : Golden Delicious

District : Jumla
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				117300			86600
a.	Human labor	Day	72	300	21600	42	300	12600
b.	Bullock labor	Day	8	750	6000	2	750	1500
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	300	3000	15	300	4500
e.	Fencing	Lum	0	0	10000			
f.	Layout	Day	4	1200	4800			
g.	Sapling	Number	330	30	9900			0
h.	Manure	Kg	4500	2	9000	6000	2	12000
i.	Fertilizer							
	Urea	Kg						
	DAP	Kg						
	Potash	Kg						
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			4500			5000
l.	Training and Pruning					5	1500	7500
m.	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				14076			10392
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			133176			98792

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				6	18	25	32		
2	Production (Kg/ha)				1440	4320	6000	7680		
3	Total income (Rs)				50400	151200	210000	268800		
4	Variable cost	131376	96992	106691.2	117360.32	129096.4	142006	156206.59		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	133176	98792	108491.2	119160.32	130896.4	143806	158006.59		
7	Profit/Loss	-133176	-98792	-108491.2	-68760.32	20303.65	66194.01	110793.41		
8	B/C ratio					1.16	1.46	1.70		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	40	42	42	42	33.6
2	Production (Kg/ha)	9600	10080	10080	10080	8064
3	Total income (Rs)	336000	352800	352800	352800	282240
4	Variable cost	171827.24	189009.969	207911	228702.1	251572.27
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	173627.24	190809.969	209711	230502.1	253372.27
7	Profit/Loss	162372.76	161990.031	143089	122297.9	28867.731
8	B/C ratio	1.94	1.85	1.68	1.53	1.11

6.2. AVERAGE COST OF PRODUCTION AND GROSS PROFIT PER HECTARE

Crop : Apple
Variety : Golden Delicious

District : Solukhumbu
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				120050			88025
a.	Human labor	Day	70	325	22750	45	325	14625
b.	Bullock labor	Day	7	800	5600	2	800	1600
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	275	2750	12	275	3300
e.	Fencing	Lum	0	0	10000			
f.	Layout	Day	4	1200	4800			
g.	Sapling	Number	330	30	9900			0
h.	Manure	Kg	4500	2.5	11250	5000	2.5	12500
i.	Fertilizer							
	Urea	Kg						
	DAP	Kg						
	Potash	Kg						
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			4500			5000
l.	Training and Pruning					5	1500	7500
m.	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				14406			10563
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			136256			100388

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO													
SN	Year	Investment Phase	2	3	4	5	6	7	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)				5	15	25	36			43	43	34.4
2	Production (Kg/ha)			1200		3600	6000	8640			10320	10320	8256
3	Total income (Rs)				48000	144000	240000	345600			412800	412800	330240
4	Variable cost	134456	98588	108446.8	119291.48	131220.6	144342.7	158776.96			1800	1800	1800
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800			1800	1800	1800
6	Total cost	136256	100388	110246.8	121091.48	133020.6	146142.7	160576.96			133020.6	146142.7	160576.96
7	Profit/Loss	-136256	-100388	-110246.8	-73091.48	10979.37	93857.31	185023.04			1.08	1.64	2.15
8	B/C ratio												

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	40	41	43	43	34.4
2	Production (Kg/ha)	9600	9840	10320	10320	8256
3	Total income (Rs)	384000	393600	412800	412800	330240
4	Variable cost	174654.66	192120.121	211332.1	232465.3	255711.88
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	176454.66	193920.121	213132.1	234265.3	257511.88
7	Profit/Loss	207545.34	199679.879	199667.9	178534.7	72728.118
8	B/C ratio	2.18	2.03	1.94	1.76	1.28

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Apple
Variety : Golden Delicious

District : Humla
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				118925			86800
a.	Human labor	Day	75	300	22500	38	300	11400
b.	Bullock labor	Day	8	700	5600	2	700	1400
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	300	3000	15	300	4500
e.	Fencing	Lum	0	0	10000			
f.	Layout	Day	4	1200	4800			
g.	Sapling	Number	330	30	9900			0
h.	Manure	Kg	4500	2.25	10125	6000	2.25	13500
i.	Fertilizer							
	Urea	Kg						
	DAP	Kg						
	Potash	Kg						
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			4500			5000
l.	Training and Pruning					5	1500	7500
m.	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				14271			10416
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			134996			99016

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	8	9
1	Production (Kg/plant)				5	12	20	30		
2	Production (Kg/ha)			1200	2880	4800	7200			
3	Total income (Rs)			42000	100800	168000	252000			
4	Variable cost	133196	97216	106937.6	117631.36	129394.5	142333.9	156567.34		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	134996	99016	108737.6	119431.36	131194.5	144133.9	158367.34		
7	Profit/Loss	-134996	-99016	-108737.6	-77431.36	-30394.5	23866.05	93632.66		
8	B/C ratio						1.17	1.59		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	35	38	40	40	32
2	Production (Kg/ha)	8400	9120	9600	9600	7680
3	Total income (Rs)	294000	319200	336000	336000	268800
4	Variable cost	172224.07	189446.482	208391.1	229230.2	252153.27
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	174024.07	191246.482	210191.1	231030.2	253953.27
7	Profit/Loss	119975.93	127953.518	125808.9	104969.8	14846.733
8	B/C ratio	1.69	1.67	1.60	1.45	1.06

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

**Crop : Mango
Variety : Maldaha**

**District : Bara
Seedling : Layering**

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				98210			76600
a.	Human labor	Day	50	400	20000	30	400	12000
b.	Bullock labor	Day	2	1000	2000	1	1000	1000
c.	Tractor	hour	2	1600	3200	1	1600	1600
d.	Pump set, water pond	hour	15	125	1875	20	125	2500
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1250	5000			
g.	Sapling	Number	110	40	4400			0
h.	Manure	Kg	2000	2	4000	2500	2	5000
i.	Fertilizer							
	Urea	Kg	15	25	375			
	DAP	Kg	20	50	1000			
	Potash	Kg	10	36	360			
j.	Plant protection chemical	Rs			2500	4	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				11785.2			9192
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				2300			2300
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			1000			1000
3	Total cost	Rs			112295.2			88092

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO								
	No of plants in production :				85	Price (Rs/Kg) :		40
SN	Year	Investment Phase	2	3	4	5	6	7
1	Production (Kg/plant)				25	50	70	90
2	Production (Kg/ha)				2125	4250	5950	7650
3	Total income (Rs)				85000	170000	238000	306000
4	Variable cost	109995.2	85792	94371.2	103808.32	114189.2	125608.1	138168.87
5	Fixed cost	2300	2300	2300	2300	2300	2300	2300
6	Total cost	112295.2	88092	96671.2	106108.32	116489.2	127908.1	140468.87
7	Profit/Loss	-112295.2	-88092	-96671.2	-21108.32	53510.85	110091.9	165531.13
8	B/C ratio						1.86	2.18

SN	Year			8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)			110	118	120	122	97.6
2	Production (Kg/ha)			9350	10030	10200	10370	8296
3	Total income (Rs)			374000	401200	408000	414800	331840
4	Variable cost			151985.8	167184.337	183902.8	202293	222522.35
5	Fixed cost			2300	2300	2300	2300	2300
6	Total cost			154285.8	169484.337	186202.8	204593	224822.35
7	Profit/Loss			219714.2	231715.663	221797.2	210207	107017.65
8	B/C ratio			2.42	2.37	2.19	2.03	1.48

Condition for Mango Human labor Requirement (First year)

Activities	Units	Labor		Year	No/plant	Kg/plant
Land leveling. Pit digging	Number	20			10	125.00
Manuring and pit filling	Number	15			9	100.00
Seedling planting	Number	5			8	77.50
Irrigation	Number	5			7	52.50
Mulching	Number	5			6	45.00
Total		50			1 kg =4 mango	
Materials Utilization						
Manure	Kg/Plant	20-50				
Chemical fertilizer	Kg/Plant	0.4	1st year (0.4), 2nd to fifth (0.5), After 5 (1) and after 10 (1.5)			
Micronutrient	Kg/Plant	0.2-1				
No of seedling	Plants/ha	100	Mortality	10%		
Life span	Years	25-40				
Production start						
Layering seedlings	Years	4				
By seed	Years	5				
Secondary production		Vegetables				
Note : Benefit and cost are equal for secondary crops						
Production Process						
No of Plants in production	Number	85				
Price	Rs/Kg	40				

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mango
Variety : Bambay

District : Parsa
Seedling : Layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				92935			75100
a.	Human labor	Day	50	350	17500	30	350	10500
b.	Bullock labor	Day	4	1000	4000	2	1000	2000
c.	Tractor	hour	1	1600	1600	1	1600	1600
d.	Pump set, water pond	hour	15	125	1875	20	125	2500
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1000	4000			
g.	Sapling	Number	110	35	3850			0
h.	Manure	Kg	2000	2	4000	2500	2	5000
i.	Fertilizer							
	Urea	Kg	20	25	500			
	DAP	Kg	15	50	750			
	Potash	Kg	10	36	360			
j.	Plant protection chemical	Rs			2500	4	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	4	1000	4000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				11152.2			9012
p.	Others	Rs			2500			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			105887.2			85912

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO													
SN	Year	Investment Phase	2	3	4	5	6	7	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)				30	60	90	110					
2	Production (Kg/ha)				2550	5100	7650	9350					
3	Total income (Rs)				96900	193800	290700	355300					
4	Variable cost	104087.2	84112	92523.2	101775.52	111953.1	123148.4	135463.22					
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800					
6	Total cost	105887.2	85912	94323.2	103575.52	113753.1	124948.4	137263.22					
7	Profit/Loss	-105887.2	-85912	-94323.2	-6675.52	80046.93	165751.6	218036.78					
8	B/C ratio						2.33	2.59					

1	Production (Kg/plant)				120	125	130	104					
2	Production (Kg/ha)				10200	10625	10880	8840					
3	Total income (Rs)				387600	403750	413440	335920					
4	Variable cost				149009.5	163910.493	180301.5	218164.87					
5	Fixed cost				1800	1800	1800	1800					
6	Total cost				150809.5	165710.493	182101.5	219964.87					
7	Profit/Loss				236790.5	238039.507	231338.5	115955.13					
8	B/C ratio				2.57	2.44	2.27	1.53					

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mango
Variety : Maldaha

District : Chitwan
Seedling : Layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				96235			73100
a.	Human labor	Day	50	400	20000	25	400	10000
b.	Bullock labor	Day	0	0	0	0	0	0
c.	Tractor	hour	3	1600	4800	1	1600	1600
d.	Pump set, water pond	hour	15	100	1500	20	100	2000
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1000	4000			
g.	Sapling	Number	110	60	6600			0
h.	Manure	Kg	2200	2	4400	3000	2	6000
i.	Fertilizer							
	Urea	Kg	25	25	625			
	DAP	Kg	15	50	750			
	Potash	Kg	10	36	360			
j.	Plant protection chemical	Rs			2500	4	1200	3000
k.	Bordeaux mixture and micro nutrient	Lum			2000			2500
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	4	800	3200			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				11548.2			8772
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			109583.2			83672

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO									
SN	Year	Investment Phase	2	3	4	5	6	7	
1	Production (Kg/plant)				30	45	65	90	
2	Production (Kg/ha)				2550	3825	5525	7650	
3	Total income (Rs)				91800	137700	198900	275400	
4	Variable cost	107783.2	81872	90059.2	99065.12	108971.6	119868.8	131855.67	
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800	
6	Total cost	109583.2	83672	91859.2	100865.12	110771.6	121668.8	133655.67	
7	Profit/Loss	-109583.2	-83672	-91859.2	-9065.12	26928.37	77231.2	141744.33	
8	B/C ratio					1.24	1.63	2.06	

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	105	125	132	135	108
2	Production (Kg/ha)	8925	10625	11220	11475	9180
3	Total income (Rs)	321300	382500	403920	413100	330480
4	Variable cost	145041.2	159545.366	175499.9	193049.9	212354.88
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	146841.2	161345.366	177299.9	194849.9	214154.88
7	Profit/Loss	174458.8	221154.634	226620.1	218250.1	116325.12
8	B/C ratio	2.19	2.37	2.28	2.12	1.54

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mango
Variety : Dasahari

District : Sarlahi
Seedling : Layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				95185			75825
a.	Human labor	Day	50	350	17500	35	350	12250
b.	Bullock labor	Day	1	1000	1000	1	1000	1000
c.	Tractor	hour	3	1600	4800	1	1600	1600
d.	Pump set, water pond	hour	12	125	1500	15	125	1875
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1000	4000			
g.	Sapling	Number	110	40	4400			0
h.	Manure	Kg	2000	2	4000	2500	2	5000
i.	Fertilizer							
	Urea	Kg	25	25	625			
	DAP	Kg	20	50	1000			
	Potash	Kg	10	36	360			
j.	Plant protection chemical	Rs			2500	4	1000	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					2	800	1600
m.	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				11422.2			9099
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			108407.2			86724

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO													
SN	Year	Investment Phase	2	3	4	5	6	7	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)				25	45	70	92					
2	Production (Kg/ha)				2125	3825	5950	7820					
3	Total income (Rs)				74375	133875	208250	273700					
4	Variable cost	106607.2	84924	93416.4	102758.04	113033.8	124337.2	136770.95					
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800					
6	Total cost	108407.2	86724	95216.4	104558.04	114833.8	126137.2	138570.95					
7	Profit/Loss	-108407.2	-86724	-95216.4	-30183.04	19041.16	82112.77	135129.05					
8	B/C ratio					1.17	1.65	1.98					

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	110	125	130	130	104
2	Production (Kg/ha)	9350	10625	11050	11050	8840
3	Total income (Rs)	327250	371875	386750	386750	309400
4	Variable cost	150448	165492.851	182042.1	200246.3	220270.98
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	152248	167292.851	183842.1	202046.3	222070.98
7	Profit/Loss	175002	204582.149	202907.9	184703.7	87329.015
8	B/C ratio	2.15	2.22	2.10	1.91	1.39

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mango
Variety : Dasahari

District : Siraha
Seedling : Layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				94685			76650
a.	Human labor	Day	48	400	19200	32	400	12800
b.	Bullock labor	Day	1	1000	1000	1	1000	1000
c.	Tractor	hour	3	1600	4800	1	1600	1600
d.	Pump set, water pond	hour	12	150	1800	15	150	2250
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1000	3000			
g.	Sapling	Number	110	40	4400			0
h.	Manure	Kg	2000	2	4000	2500	2	5000
i.	Fertilizer							
	Urea	Kg	25	25	625			
	DAP	Kg	20	50	1000			
	Potash	Kg	10	36	360			
j.	Plant protection chemical	Rs			2500	4	1200	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	5	800	4000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				11362.2			9198
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			107847.2			87648

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO									
SN	Year	Investment Phase	2	3	4	5	6	7	
1	Production (Kg/plant)				25	45	65	95	
2	Production (Kg/ha)				2125	3825	5525	8075	
3	Total income (Rs)				85000	153000	221000	323000	
4	Variable cost	106047.2	85848	94432.8	103876.08	114263.7	125690.1	138259.06	
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800	
6	Total cost	107847.2	87648	96232.8	105676.08	116063.7	127490.1	140059.06	
7	Profit/Loss	-107847.2	-87648	-96232.8	-20676.08	36936.31	93509.94	182940.94	
8	B/C ratio						1.73	2.31	

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	120	125	135	135	108
2	Production (Kg/ha)	10200	10625	11475	11475	9180
3	Total income (Rs)	408000	425000	459000	459000	367200
4	Variable cost	152085	167293.466	184022.8	202425.1	222667.6
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	153885	169093.466	185822.8	204225.1	224467.6
7	Profit/Loss	254115	255906.534	273177.2	254774.9	142732.4
8	B/C ratio	2.65	2.51	2.47	2.25	1.64

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mango
Variety : Kalkatte

District : Nawalparasi
Seedling : Layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				94085			75850
a.	Human labor	Day	50	400	20000	30	400	12000
b.	Bullock labor	Day	1	1000	1000	1	1000	1000
c.	Tractor	hour	2	1600	3200	1	1600	1600
d.	Pump set, water pond	hour	12	150	1800	15	150	2250
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1250	3750			
g.	Sapling	Number	110	35	3850			0
h.	Manure	Kg	2000	2	4000	2500	2	5000
i.	Fertilizer							
	Urea	Kg	25	25	625			
	DAP	Kg	20	50	1000			
	Potash	Kg	10	36	360			
j.	Plant protection chemical	Rs			2500	3	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	4	1000	4000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				11290.2			9102
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			107175.2			86752

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	11-15 Yr	16-25 Yr
1	Production (Kg/plant)				25	48	72	95		
2	Production (Kg/ha)				2125	4080	6120	8075		
3	Total income (Rs)				70125	134640	201960	266475		
4	Variable cost	105375.2	84952	93447.2	102791.92	113071.1	124378.2	136816.05		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	107175.2	86752	95247.2	104591.92	114871.1	126178.2	138616.05		
7	Profit/Loss	-107175.2	-86752	-95247.2	-34466.92	19768.89	75781.78	127858.95		
8	B/C ratio						1.60	1.92		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	112	120	120	122	97.6
2	Production (Kg/ha)	9520	10200	10200	10370	8296
3	Total income (Rs)	314160	336600	336600	342210	273768
4	Variable cost	150497.7	165547.415	182102.2	200312.4	220343.61
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	152297.7	167347.415	183902.2	202112.4	222143.61
7	Profit/Loss	161862.3	169252.585	152697.8	140097.6	51624.391
8	B/C ratio	2.06	2.01	1.83	1.69	1.23

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mango
Variety :Dasahari

District : Kapilbastu
Seedling : Layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				93185			72150
a.	Human labor	Day	50	350	17500	25	350	8750
b.	Bullock labor	Day	0	0	0	0	0	0
c.	Tractor	hour	3	1600	4800	1	1600	1600
d.	Pump set, water pond	hour	15	150	2250	20	150	3000
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1250	3750			
g.	Sapling	Number	110	40	4400			0
h.	Manure	Kg	2000	2	4000	2500	2	5000
i.	Fertilizer							
	Urea	Kg	25	25	625			
	DAP	Kg	20	50	1000			
	Potash	Kg	10	36	360			
j.	Plant protection chemical	Rs			2500	3	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			2800
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	4	1000	4000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				11182.2			8658
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			106167.2			82608

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				20	45	75	95		
2	Production (Kg/ha)			1700		3825	6375	8075		
3	Total income (Rs)			59500		133875	223125	282625		
4	Variable cost	104367.2	80808	88888.8	97777.68	107555.4	118311	130142.09		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	106167.2	82608	90688.8	99577.68	109355.4	120111	131942.09		
7	Profit/Loss	-106167.2	-82608	-90688.8	-40077.68	24519.55	103014	150682.91		
8	B/C ratio						1.86	2.14		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	125	125	125	125	100
2	Production (Kg/ha)	10625	10625	10625	10625	8500
3	Total income (Rs)	371875	371875	371875	371875	297500
4	Variable cost	143156.3	157471.931	173219.1	190541	209595.14
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	144956.3	159271.931	175019.1	192341	211395.14
7	Profit/Loss	226918.7	212603.069	196855.9	179534	86104.859
8	B/C ratio	2.57	2.33	2.12	1.93	1.41

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mango
Variety : Maldaha

District : Banke
Seedling : Layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				94835			75450
a.	Human labor	Day	48	400	19200	30	400	12000
b.	Bullock labor	Day	1	1000	1000	1	1000	1000
c.	Tractor	hour	3	1600	4800	1	1600	1600
d.	Pump set, water pond	hour	15	100	1500	20	100	2000
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1250	3750			
g.	Sapling	Number	110	40	4400			0
h.	Manure	Kg	2000	2	4000	2500	2	5000
i.	Fertilizer							
	Urea	Kg	25	25	625			
	DAP	Kg	20	50	1000			
	Potash	Kg	10	36	360			
j.	Plant protection chemical	Rs			2500	3	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2200			2850
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	4	1000	4000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				11380.2			9054
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			108015.2			86304

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	11-15 Yr	16-25 Yr
1	Production (Kg/plant)				20	42	70	98		
2	Production (Kg/ha)			1700		3570	5950	8330		
3	Total income (Rs)				61200	128520	214200	299880		
4	Variable cost	106215.2	84504	92954.4	102249.84	112474.8	123722.3	136094.54		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	108015.2	86304	94754.4	104049.84	114274.8	125522.3	137894.54		
7	Profit/Loss	-108015.2	-86304	-94754.4	-42849.84	14245.18	88677.69	161985.46		
8	B/C ratio					1.12	1.71	2.17		

			8	9	10	11-15 Yr	16-25 Yr
SN	Year						
1	Production (Kg/plant)		118	120	120	125	100
2	Production (Kg/ha)		10030	10200	10200	10625	8500
3	Total income (Rs)		361080	367200	367200	382500	306000
4	Variable cost		149704	164674.39	181141.8	199256	219181.61
5	Fixed cost		1800	1800	1800	1800	1800
6	Total cost		151504	166474.39	182941.8	201056	220981.61
7	Profit/Loss		209576	200725.61	184258.2	181444	85018.387
8	B/C ratio		2.38	2.21	2.01	1.90	1.38

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mango
Variety : Maldaha

District : Kailali
Seedling : Layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				95485			77800
a.	Human labor	Day	47	400	18800	33	400	13200
b.	Bullock labor	Day	1	1000	1000	1	1000	1000
c.	Tractor	hour	3	1600	4800	1	1600	1600
d.	Pump set, water pond	hour	15	150	2250	20	150	3000
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1250	3750			
g.	Sapling	Number	110	40	4400			0
h.	Manure	Kg	2000	2	4000	2500	2	5000
i.	Fertilizer							
	Urea	Kg	25	25	625			
	DAP	Kg	20	50	1000			
	Potash	Kg	10	36	360			
j.	Plant protection chemical	Rs			2500	3	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	4	1000	4000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				11458.2			9336
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			108743.2			88936

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				25	45	70	95		
2	Production (Kg/ha)			2125	3825	5950	8075			
3	Total income (Rs)			80750	145350	226100	306850			
4	Variable cost	106943.2	87136	95849.6	105434.56	115978	127575.8	140333.4		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	108743.2	88936	97649.6	107234.56	117778	129375.8	142133.4		
7	Profit/Loss	-108743.2	-88936	-97649.6	-26484.56	27571.98	96724.18	164716.6		
8	B/C ratio						1.75	2.16		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	115	120	125	125	100
2	Production (Kg/ha)	9775	10200	10625	10625	8500
3	Total income (Rs)	371450	387600	403750	403750	323000
4	Variable cost	154366.7	169803.413	186783.8	205462.1	226008.34
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	156166.7	171603.413	188583.8	207262.1	227808.34
7	Profit/Loss	215283.3	215996.587	215166.2	196487.9	95191.657
8	B/C ratio	2.38	2.26	2.14	1.95	1.42

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Mango
Variety : Dasahari

District : Rautahat
Seedling : Layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				95565			74120
a.	Human labor	Day	50	375	18750	28	375	10500
b.	Bullock labor	Day	1	1000	1000	1	1000	1000
c.	Tractor	hour	3	1600	4800	1	1600	1600
d.	Pump set, water pond	hour	12	140	1680	18	140	2520
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	2	1250	2500			
g.	Sapling	Number	110	60	6600			0
h.	Manure	Kg	2000	2	4000	2250	2	4500
i.	Fertilizer							
	Urea	Kg	25	25	625			
	DAP	Kg	20	50	1000			
	Potash	Kg	10	36	360			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Training and Pruning					2	1000	2000
m	Equipments	Number	3	1250	3750			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				11467.8			8894.4
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			108832.8			84814.4

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				30	50	80	110		
2	Production (Kg/ha)				2550	4250	6800	9350		
3	Total income (Rs)				102000	170000	272000	374000		
4	Variable cost	107032.8	83014.4	91315.84	100447.424	110492.2	121541.4	133695.52		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	108832.8	84814.4	93115.84	102247.424	112292.2	123341.4	135495.52		
7	Profit/Loss	-108832.8	-84814.4	-93115.8	-247.424	57707.83	148658.6	238504.48		
8	B/C ratio						2.21	2.76		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	125	135	135	135	108
2	Production (Kg/ha)	10625	11475	11475	11475	9180
3	Total income (Rs)	425000	459000	459000	459000	367200
4	Variable cost	147065.1	161771.581	177948.7	195743.6	215317.97
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	148865.1	163571.581	179748.7	197543.6	217117.97
7	Profit/Loss	276134.9	295428.419	279251.3	261456.4	150082.03
8	B/C ratio	2.85	2.81	2.55	2.32	1.69

**6.5. AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Litchi
Variety : Local

District : Gulmi
Seedling : Seed/Air layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				98435			80540
a.	Human labor	Day	45	350	15750	30	350	10500
b.	Bullock labor	Day	6	1000	6000	2	1000	2000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	15	100	1500	20	100	2000
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	5	1250	6250			
g.	Sapling	Number	165	30	4950			0
h.	Manure	Kg	3000	2	6000	4500	2	9000
i.	Fertilizer							
	Urea	Kg	25	25	625	30	25	750
	DAP	Kg	20	50	1000	25	50	1250
	Potash	Kg	10	36	360	15	36	540
j.	Plant protection chemical	Rs			2500	4	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				11812.2			9664.8
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				2300			2300
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			1000			1000
3	Total cost	Rs			112547.2			92504.8

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO								
	No of plants in production :				135	Price (Rs/ Kg) :		40
SN	Year	Investment Phase	2	3	4	5	6	7
1	Production (Kg/plant)				15	30	55	75
2	Production Kg/Ha				2025	4050	7425	10125
3	Total income (Rs)				81000	162000	297000	405000
4	Variable cost	110247.2	90204.8	99225.28	109147.808	120062.6	132068.8	145275.73
5	Fixed cost	2300	2300	2300	2300	2300	2300	2300
6	Total cost	112547.2	92504.8	101525.28	111447.808	122362.6	134368.8	147575.73
7	Profit/Loss	-112547	-92504.8	-101525.3	-30447.808	39637.41	162631.2	257424.27
8	B/C ratio					1.32	2.21	2.74

SN	Year			8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)			90	100	100	100	75
2	Production (Kg/ha)			12150	13500	13500	13500	10125
3	Total income (Rs)			486000	540000	540000	540000	405000
4	Variable cost			159803.31	175783.636	193362	212698.2	233968.02
5	Fixed cost			2300	2300	2300	2300	2300
6	Total cost			162103.31	178083.636	195662	214998.2	236268.02
7	Profit/Loss			323896.69	361916.364	344338	325001.8	168731.98
8	B/C ratio			3.00	3.03	2.76	2.51	1.71

Condition for Litchi				
Human labor Requirement (First year)				
Activities	Units	Labor		
Land leveling. Pit digging	No/day	25		
Manuring and pit filling	No/day	10		
Seedling planting	No/day	5		
Irrigation	No/day	2		
Mulching	No/day	3		
Total		45		
Materials Utilization				
Manure	Kg/Plant	20		
Chemical fertilizer	Kg/Plant	0.4	1st year (0.4), 2nd to fifth (0.5), After 5 (1) and after 10 (1.5)	
Micronutrient	Kg/Plant	1	after 10 years	
No of seedling	Plants/ha	150	Mortality	10%
Life span	Years	25-40		
Production start				
Layering seedlings	Years	3		
By seed	Years	5		
Secondary production		Vegetables		
Note : Benefit and cost are equal for secondary crops				
Production Process				
No of Plants in production	Number	135		
Price	Rs/Kg	40		

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Litchi
Variety : Local

District : Chitwan
Seedling : Seed/Air layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				102385			83840
a.	Human labor	Day	48	400	19200	32	400	12800
b.	Bullock labor	Day	0	0	0	0	0	0
c.	Tractor	hour	4	1500	6000	2	1500	3000
d.	Pump set, water pond	hour	15	100	1500	20	100	2000
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1250	5000			
g.	Sapling	Number	165	40	6600			0
h.	Manure	Kg	3000	2	6000	4500	2	9000
i.	Fertilizer							
	Urea	Kg	25	25	625	30	25	750
	DAP	Kg	22	50	1100	25	50	1250
	Potash	Kg	10	36	360	15	36	540
j.	Plant protection chemical	Rs			2500	4	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					2	1000	2000
m	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				12286.2			10060.8
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				2300			2300
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			1000			1000
3	Total cost	Rs			116971.2			96200.8

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO								
SN	Year	Investment Phase	2	3	4	5	6	7
1	Production (Kg/plant)				10	25	55	70
2	Production (Kg/Ha)				1350	3375	7425	9450
3	Total income (Rs)				60750	151875	334125	425250
4	Variable cost	114671.2	93900.8	103290.88	113619.968	124982	137480.2	151228.18
5	Fixed cost	2300	2300	2300	2300	2300	2300	2300
6	Total cost	116971.2	96200.8	105590.88	115919.968	127282	139780.2	153528.18
7	Profit/Loss	-116971	-96200.8	-105590.9	-55169.968	24593.04	194344.8	271721.82
8	B/C ratio					1.19	2.39	2.77

SN	Year			8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)			85	100	100	100	75
2	Production Kg/Ha			11475	13500	13500	13500	10125
3	Total income (Rs)			516375	607500	607500	607500	455625
4	Variable cost			166351	182986.095	201284.7	221413.2	243554.49
5	Fixed cost			2300	2300	2300	2300	2300
6	Total cost			168651	185286.095	203584.7	223713.2	245854.49
7	Profit/Loss			347724	422213.905	403915.3	383786.8	209770.51
8	B/C ratio			3.06	3.28	2.98	2.72	1.85

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Litchi
Variety : Local

District : Sarlahi
Seedling : Seed/Air layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				102085			84440
a.	Human labor	Day	46	400	18400	31	400	12400
b.	Bullock labor	Day	1	1000	1000	1	1000	1000
c.	Tractor	hour	4	1500	6000	2	1500	3000
d.	Pump set, water pond	hour	15	100	1500	20	100	2000
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	5	1250	6250			
g.	Sapling	Number	165	30	4950			0
h.	Manure	Kg	3000	2	6000	4500	2	9000
i.	Fertilizer							
	Urea	Kg	25	25	625	30	25	750
	DAP	Kg	20	50	1000	25	50	1250
	Potash	Kg	10	36	360	15	36	540
j.	Plant protection chemical	Rs			2500	4	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				12250.2			10132.8
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				2300			2300
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			1000			1000
3	Total cost	Rs			116635.2			96872.8

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	11-15 Yr	16-25 Yr
1	Production (Kg/plant)				12	25	42	66		
2	Production (Kg/Ha)				1620	3375	5670	8910		
3	Total income (Rs)				64800	135000	226800	356400		
4	Variable cost	114335.2	94572.8	104030.08	114433.088	125876.4	138464	152310.44		
5	Fixed cost	2300	2300	2300	2300	2300	2300	2300		
6	Total cost	116635.2	96872.8	106330.08	116733.088	128176.4	140764	154610.44		
7	Profit/Loss	-116635	-96872.8	-106330.1	-51933.088	6823.603	86035.96	201789.56		
8	B/C ratio					1.05	1.61	2.31		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	85	100	100	100	75
2	Production Kg/Ha	11475	13500	13500	13500	10125
3	Total income (Rs)	459000	540000	540000	540000	405000
4	Variable cost	167541.48	184295.633	202725.2	222997.7	245297.49
5	Fixed cost	2300	2300	2300	2300	2300
6	Total cost	169841.48	186595.633	205025.2	225297.7	247597.49
7	Profit/Loss	289158.52	353404.367	334974.8	314702.3	157402.51
8	B/C ratio	2.70	2.89	2.63	2.40	1.64

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Litchi
Variety : Local

District : Rautahat
Seedling : Seed/Air layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				100810			84540
a.	Human labor	Day	45	400	18000	30	400	12000
b.	Bullock labor	Day	1	1000	1000	1	1000	1000
c.	Tractor	hour	4	1500	6000	2	1500	3000
d.	Pump set, water pond	hour	15	125	1875	20	125	2500
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	5	1000	5000			
g.	Sapling	Number	165	30	4950			0
h.	Manure	Kg	3000	2	6000	4500	2	9000
i.	Fertilizer							
	Urea	Kg	25	25	625	30	25	750
	DAP	Kg	20	50	1000	25	50	1250
	Potash	Kg	10	36	360	15	36	540
j.	Plant protection chemical	Rs			2500	4	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				12097.2			10144.8
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				2300			2300
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			1000			1000
3	Total cost	Rs			115207.2			96984.8

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				10	22	45	58		
2	Production (Kg/Ha)			1350	2970	6075	7830			
3	Total income (Rs)				47250	103950	212625	274050		
4	Variable cost	112907.2	94684.8	104153.28	114568.608	126025.5	138628	152490.82		
5	Fixed cost	2300	2300	2300	2300	2300	2300	2300		
6	Total cost	115207.2	96984.8	106453.28	116868.608	128325.5	140928	154790.82		
7	Profit/Loss	-115207	-96984.8	-106453.3	-69618.608	-24375.5	71696.98	119259.18		
8	B/C ratio						1.51	1.77		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	76	95	100	100	75
2	Production Kg/Ha	10260	12825	13500	13500	10125
3	Total income (Rs)	359100	448875	472500	472500	354375
4	Variable cost	167739.9	184513.889	202965.3	223261.8	245587.99
5	Fixed cost	2300	2300	2300	2300	2300
6	Total cost	170039.9	186813.889	205265.3	225561.8	247887.99
7	Profit/Loss	189060.1	262061.111	267234.7	246938.2	106487.01
8	B/C ratio	2.11	2.40	2.30	2.09	1.43

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Litchi
Variety : Local

District : Jhapa
Seedling : Seed/Air layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				103932			83790
a.	Human labor	Day	52	375	19500	30	375	11250
b.	Bullock labor	Day	1	1000	1000	1	1000	1000
c.	Tractor	hour	4	1500	6000	2	1500	3000
d.	Pump set, water pond	hour	15	125	1875	20	125	2500
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	5	1000	5000			
g.	Sapling	Number	165	40	6600			0
h.	Manure	Kg	3000	2	6000	4500	2	9000
i.	Fertilizer							
	Urea	Kg	25	25	625	30	25	750
	DAP	Kg	18	50	900	25	50	1250
	Potash	Kg	12	36	432	15	36	540
j.	Plant protection chemical	Rs			2500	4	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				12471.84			10054.8
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				2300			2300
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			1000			1000
3	Total cost	Rs			118703.84			96144.8

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	11-15 Yr	16-25 Yr
1	Production (Kg/plant)				15	28	45	70		
2	Production (Kg/Ha)			2025	3780	6075	9450			
3	Total income (Rs)			85050	158760	255150	396900			
4	Variable cost	116403.8	103229.28	113552.208	124907.4	137398.2	151137.99			
5	Fixed cost	2300	2300	2300	2300	2300	2300	2300		
6	Total cost	118703.8	105529.28	115852.208	127207.4	139698.2	153437.99			
7	Profit/Loss	-118704	-105529.3	-30802.208	31552.57	115451.8	243462.01			
8	B/C ratio				1.25	1.83	2.59			

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	85	100	100	100	75
2	Production Kg/Ha	11475	13500	13500	13500	10125
3	Total income (Rs)	481950	567000	567000	567000	425250
4	Variable cost	166251.79	182876.967	201164.7	221281.1	243409.24
5	Fixed cost	2300	2300	2300	2300	2300
6	Total cost	168551.79	185176.967	203464.7	223581.1	245709.24
7	Profit/Loss	313398.21	381823.033	363535.3	343418.9	179540.76
8	B/C ratio	2.86	3.06	2.79	2.54	1.73

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Litchi
Variety : Local

District : Siraha
Seedling : Seed/Air layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				101385			85040
a.	Human labor	Day	48	400	19200	30	400	12000
b.	Bullock labor	Day	1	1000	1000	1	1000	1000
c.	Tractor	hour	4	1500	6000	2	1500	3000
d.	Pump set, water pond	hour	15	150	2250	20	150	3000
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1000	4000			
g.	Sapling	Number	165	30	4950			0
h.	Manure	Kg	3000	2	6000	4500	2	9000
i.	Fertilizer							
	Urea	Kg	25	25	625	30	25	750
	DAP	Kg	20	50	1000	25	50	1250
	Potash	Kg	10	36	360	15	36	540
j.	Plant protection chemical	Rs			2500	4	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				12166.2			10204.8
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				2300			2300
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			1000			1000
3	Total cost	Rs			115851.2			97544.8

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7		
1	Production (Kg/plant)				12	25	55	65		
2	Production (Kg/Ha)			1620	3375	7425	8775			
3	Total income (Rs)			56700	118125	259875	307125			
4	Variable cost	113551.2	104769.28	115246.208	126770.8	139447.9	153392.7			
5	Fixed cost	2300	2300	2300	2300	2300	2300			
6	Total cost	115851.2	107069.28	117546.208	129070.8	141747.9	155692.7			
7	Profit/Loss	-115851	-107069.3	-60846.208	-10945.8	118127.1	151432.3			
8	B/C ratio					1.83	1.97			

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	85	100	100	100	75
2	Production Kg/Ha	11475	13500	13500	13500	10125
3	Total income (Rs)	401625	472500	472500	472500	354375
4	Variable cost	168731.97	185605.17	204165.7	224582.3	247040.48
5	Fixed cost	2300	2300	2300	2300	2300
6	Total cost	171031.97	187905.17	206465.7	226882.3	249340.48
7	Profit/Loss	230593.03	284594.83	266034.3	245617.7	105034.52
8	B/C ratio	2.35	2.51	2.29	2.08	1.42

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Litchi
Variety : Local

District : Rupandehi
Seedling : Seed/Air layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				99235			83540
a.	Human labor	Day	44	400	17600	30	400	12000
b.	Bullock labor	Day	0	0	0	0	0	0
c.	Tractor	hour	4	1500	6000	2	1500	3000
d.	Pump set, water pond	hour	15	125	1875	20	125	2500
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1000	4000			
g.	Sapling	Number	165	35	5775			0
h.	Manure	Kg	3000	2	6000	4500	2	9000
i.	Fertilizer							
	Urea	Kg	25	25	625	30	25	750
	DAP	Kg	20	50	1000	25	50	1250
	Potash	Kg	10	36	360	15	36	540
j.	Plant protection chemical	Rs			2500	4	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				11908.2			10024.8
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			112943.2			95364.8

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO									
SN	Year	Investment Phase	2	3	4	5	6	7	8
1	Production (Kg/plant)				10	30	55	70	
2	Production (Kg/Ha)			1350	4050	7425	9450		
3	Total income (Rs)			47250	141750	259875	330750		
4	Variable cost	111143.2	93564.8	102921.28	113213.408	124534.7	136988.2	150687.05	
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800	
6	Total cost	112943.2	95364.8	104721.28	115013.408	126334.7	138788.2	152487.05	
7	Profit/Loss	-112943	-95364.8	-104721.3	-67763.408	15415.25	121086.8	178262.95	
8	B/C ratio					1.12	1.87	2.17	

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	85	100	100	100	75
2	Production (Kg/ha)	11475	13500	13500	13500	10125
3	Total income (Rs)	401625	472500	472500	472500	354375
4	Variable cost	165755.75	182331.326	200564.5	220620.9	242682.99
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	167555.75	184131.326	202364.5	222420.9	244482.99
7	Profit/Loss	234069.25	288368.674	270135.5	250079.1	109892.01
8	B/C ratio	2.40	2.57	2.33	2.12	1.45

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Litchi
Variety : Local

District : Kanchanpur
Seedling : Seed/Air layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				97110			83240
a.	Human labor	Day	46	350	16100	32	350	11200
b.	Bullock labor	Day	0	10	0	0	0	0
c.	Tractor	hour	4	1500	6000	2	1500	3000
d.	Pump set, water pond	hour	15	150	2250	20	150	3000
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1000	4000			
g.	Sapling	Number	165	35	5775			0
h.	Manure	Kg	3000	2	6000	4500	2	9000
i.	Fertilizer							
	Urea	Kg	25	25	625	30	25	750
	DAP	Kg	20	50	1000	25	50	1250
	Potash	Kg	10	36	360	15	36	540
j.	Plant protection chemical	Rs			2500	4	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	5	800	4000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				11653.2			9988.8
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			110563.2			95028.8

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				10	30	50	75	50	75
2	Production (Kg/Ha)				1350	4050	6750	10125	6750	10125
3	Total income (Rs)				51300	153900	256500	384750	256500	384750
4	Variable cost	108763.2	93228.8	102551.68	112806.848	124087.5	136496.3	150145.91	136496.3	150145.91
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800	1800	1800
6	Total cost	110563.2	95028.8	104351.68	114606.848	125887.5	138296.3	151945.91	138296.3	151945.91
7	Profit/Loss	-110563	-95028.8	-104351.7	-63306.848	28012.47	118203.7	232804.09	118203.7	232804.09
8	B/C ratio					1.22	1.85	2.53	1.85	2.53

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	90	100	100	100	75
2	Production Kg/Ha	12150	13500	13500	13500	10125
3	Total income (Rs)	461700	513000	513000	513000	384750
4	Variable cost	165160.51	181676.557	199844.2	219828.6	241811.5
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	166960.51	183476.557	201644.2	221628.6	243611.5
7	Profit/Loss	294739.49	329523.443	311355.8	291371.4	141138.5
8	B/C ratio	2.77	2.80	2.54	2.31	1.58

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Litchi
Variety : Local

District : Bardia
Seedling : Seed/Air layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				93385			78040
a.	Human labor	Day	45	350	15750	30	350	10500
b.	Bullock labor	Day	1	1000	1000	1	1000	1000
c.	Tractor	hour	4	1500	6000	2	1500	3000
d.	Pump set, water pond	hour	15	125	1875	20	125	2500
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1000	4000			
g.	Sapling	Number	165	35	5775			0
h.	Manure	Kg	3000	2	6000	4500	2	9000
i.	Fertilizer							
	Urea	Kg	25	25	625	30	25	750
	DAP	Kg	20	50	1000	25	50	1250
	Potash	Kg	10	36	360	15	36	540
j.	Plant protection chemical	Rs			2500	4	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					2	1000	2000
m	Equipments	Number	5	1000	5000			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11206.2			9364.8
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			106391.2			89204.8

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				15	25	50	70		
2	Production (Kg/Ha)				2025	3375	6750	9450		
3	Total income (Rs)				70875	118125	236250	330750		
4	Variable cost	104591.2	87404.8	96145.28	105759.808	116335.8	127969.4	140766.3		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	106391.2	89204.8	97945.28	107559.808	118135.8	129769.4	142566.3		
7	Profit/Loss	-106391	-89204.8	-97945.28	-36684.808	-10.7888	106480.6	188183.7		
8	B/C ratio					1.00	1.82	2.32		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	90	100	100	100	75
2	Production Kg/Ha	12150	13500	13500	13500	10125
3	Total income (Rs)	425250	472500	472500	472500	354375
4	Variable cost	154842.93	170327.228	187360	206095.9	226705.54
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	156642.93	172127.228	189160	207895.9	228505.54
7	Profit/Loss	268607.07	300372.772	283340	264604.1	125869.46
8	B/C ratio	2.71	2.75	2.50	2.27	1.55

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Litchi
Variety : Local

District : Dang
Seedling : Seed/Air layering

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				125635			107440
a.	Human labor	Day	47	350	16450	30	350	10500
b.	Bullock labor	Day	1	900	900	1	900	900
c.	Tractor	hour	4	1500	6000	1	1500	1500
d.	Pump set, water pond	hour	12	100	1200	15	100	1500
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1000	4000			
g.	Sapling	Number	165	40	6600			0
h.	Manure	Kg	3000	2	6000	4500	2	9000
i.	Fertilizer							
	Urea	Kg	25	25	625	30	25	750
	DAP	Kg	20	50	1000	25	50	1250
	Potash	Kg	10	36	360	15	36	540
j.	Plant protection chemical	Rs			2500	4	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			3000			3500
l.	Training and Pruning					2	1000	2000
m.	Equipments	Number	5	900	4500			
n.	Land lease value	Rs/Year			10000			10000
o.	Interest on variable cost				15076.2			12892.8
p.	Others	Rs			2500			3000
q.	Management Cost	Month	12	5000	60000	12	5000	60000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			142511.2			122132.8

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	8	9
1	Production (Kg/plant)				10	25	45	75		
2	Production (Kg/Ha)				1350	3375	6075	10125		
3	Total income (Rs)				56700	141750	255150	425250		
4	Variable cost	140711.2	120332.8	132366.08	145602.688	160163	176179.3	193797.18		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	142511.2	122132.8	134166.08	147402.688	161963	177979.3	195597.18		
7	Profit/Loss	-142511	-122133	-134166.1	-90702.688	-20213	77170.75	229652.82		
8	B/C ratio					0.88	1.43	2.17		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	90	100	100	100	75
2	Production Kg/Ha	12150	13500	13500	13500	10125
3	Total income (Rs)	510300	567000	567000	567000	425250
4	Variable cost	213176.9	234494.585	257944	283738.4	312112.29
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	214976.9	236294.585	259744	285538.4	313912.29
7	Profit/Loss	295323.1	330705.415	307256	281461.6	111337.71
8	B/C ratio	2.37	2.40	2.18	1.99	1.35

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Kiwi
Variety : Hey wart/local

District : Dolakha
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				312380			114055
a.	Human labor	Day	60	350	21000	36	350	12600
b.	Bullock labor	Day	10	1000	10000	2	1000	2000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	15	275	4125	20	275	5500
e.	Fencing	Lum	0	0	100000			
f.	Layout	Day	4	1200	4800			
g.	Sapling	Number	330	250	82500			0
h.	Manure	Kg	9000	2	18000	10500	2	21000
i.	Fertilizer							
	Urea	Kg	15	25	375	15	25	375
	DAP	Kg	30	50	1500	30	50	1500
	Potash	Kg	30	36	1080	30	36	1080
j.	Plant protection chemical	Rs			4000	4	1500	6000
k.	Bordeaux mixture and micro nutrient	Lum			5000			5000
l.	Training and Pruning					5	1500	7500
m	Equipments	Number	8	1000	8000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				37485.6			13686.6
p.	Others/neting cost	Rs			3000			2500
q.	Management Cost	Month	12	2000	24000	12	2000	24000
2	Fixed cost				2800			2800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			1000			1000
d.	Repair and maintenance of farm equipments	Rs			1000			1000
3	Total cost	Rs			352665.6			130541.6

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO								
	No of plants in production :				240	Price (Rs/ Kg) :		135
SN	Year	Investment Phase	2	3	4	5	6	7
1	Production (Kg/plant)				3	10	20	30
2	Production (Kg/ha)				720	2400	4800	7200
3	Total income (Rs)				97200	324000	648000	972000
4	Variable cost	349865.6	127741.6	146902.84	168938.266	194279	223420.9	256933.99
5	Fixed cost	2800	2800	2800	2800	2800	2800	2800
6	Total cost	352665.6	130541.6	149702.84	171738.266	197079	226220.9	259733.99
7	Profit/Loss	-352666	-130542	-149702.8	-74538.266	126921	421779.1	712266.01
8	B/C ratio					1.64	2.86	3.74

SN	Year			8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)			35	40	45	45	51
2	Production (Kg/ha)			8400	9600	10800	10800	12240
3	Total income (Rs)			1134000	1296000	1458000	1458000	1652400
4	Variable cost			295474.08	339795.196	390764.5	449379.1	516786.02
5	Fixed cost			2800	2800	2800	2800	2800
6	Total cost			298274.08	342595.196	393564.5	452179.1	519586.02
7	Profit/Loss			835725.92	953404.804	1064436	1005821	1132814
8	B/C ratio			3.80	3.78	3.70	3.22	3.18

Condition for Kiwi						
Human labor Requirement (First year)						
Activities	Units	Labor				
Land leveling, pit digging	Number	10				
Manuring and pit filling	Number	30				
Seedling planting	Number	5				
Irrigation	Number	5				
Mulching	Number	10				
Total		60				
Materials Utilization						
Manure	Kg/Plant	30				
Chemical fertilizer	Kg/Plant	1.5				
Micronutrient	Kg/Plant	1				
No of seedling	Plants/ha	300	Mortality	10%		
Male Female ratio	Ratio	1 male for 8 female		40 male in 1 ha		
Life span	Years	25-30		Male	Tomari	
				Female	Alison	
					Bruno	
By seed	Years	5			Monte	
Secondary production		Vegetables			Hey wart	
Note : Benefit and cost are equal for secondary crops						
Production Process						
No of Plants in production	Number	240				
Price	Rs/Kg	135				

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Kiwi
Variety : Local

District : Illam
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				313780			115955
a.	Human labor	Day	58	400	23200	35	400	14000
b.	Bullock labor	Day	10	1000	10000	2	1000	2000
c.	Tractor	hour			0			0
d.	Pump set, water pond	hour	15	275	4125	20	275	5500
e.	Fencing	Lum	0	0	100000			
f.	Layout	Day	3	1500	4500			
g.	Sapling	Number	330	250	82500			0
h.	Manure	Kg	9000	2	18000	10500	2	21000
i.	Fertilizer							
	Urea	Kg	15	25	375	15	25	375
	DAP	Kg	30	50	1500	30	50	1500
	Potash	Kg	30	36	1080	30	36	1080
j.	Plant protection chemical	Rs			5000	4	1500	6000
k.	Bordeaux mixture and micro nutrient	Lum			4500			5000
l.	Training and Pruning					5	1500	7500
m.	Equipments	Number	7	1000	7000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost (14%)				37653.6			13914.6
p.	Others	Rs			3000			3000
q.	Management Cost	Month	12	2000	24000	12	2000	24000
2	Fixed cost				2800			2800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			1000			1000
d.	Repair and maintenance of farm equipments	Rs			1000			1000
3	Total cost	Rs			354233.6			132669.6

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				3	10	18	25		
2	Production Kg/Ha				720	2400	4320	6000		
3	Total income (Rs)				104400	348000	626400	870000		
4	Variable cost	351433.6	129869.6	149350.04	171752.546	197515.4	227142.7	261214.15		
5	Fixed cost	2800	2800	2800	2800	2800	2800	2800		
6	Total cost	354233.6	132669.6	152150.04	174552.546	200315.4	229942.7	264014.15		
7	Profit/Loss	-354234	-132670	-152150	-70152.546	147684.6	396457.3	605985.85		
8	B/C ratio					1.74	2.72	3.30		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	32	38	44	45	36
2	Production Kg/Ha	7680	9120	10560	10800	8640
3	Total income (Rs)	1113600	1322400	1531200	1566000	1252800
4	Variable cost	300396.28	345455.718	397274.1	456865.2	525394.96
5	Fixed cost	2800	2800	2800	2800	2800
6	Total cost	303196.28	348255.718	400074.1	459665.2	528194.96
7	Profit/Loss	810403.72	974144.282	1131126	1106335	724605.04
8	B/C ratio	3.67	3.80	3.83	3.41	2.37

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Kiwi
Variety : Local

District : Makwanpur
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				307305			114855
a.	Human labor	Day	62	400	24800	36	400	14400
b.	Bullock labor	Day	10	1000	10000	2	1000	2000
c.	Tractor	hour			0			0
d.	Pump set, water pond	hour	15	200	3000	20	200	4000
e.	Fencing	Lum	0	0	100000			
f.	Layout	Day	4	1200	4800			
g.	Sapling	Number	330	225	74250			0
h.	Manure	Kg	9000	2	18000	10500	2	21000
i.	Fertilizer							
	Urea	Kg	15	25	375	15	25	375
	DAP	Kg	30	50	1500	30	50	1500
	Potash	Kg	30	36	1080	30	36	1080
j.	Plant protection chemical	Rs			6000	4	1500	6000
k.	Bordeaux mixture and micro nutrient	Lum			4500			5000
l.	Training and Pruning					5	1500	7500
m.	Equipments	Number	7	1000	7000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				36876.6			13782.6
p.	Others	Rs			3000			3000
q.	Management Cost	Month	12	2000	24000	12	2000	24000
2	Fixed cost				2300			2300
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			1000			1000
3	Total cost	Rs			346481.6			130937.6

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7		
1	Production (Kg/plant)				4	10	18	25		
2	Production (Kg/ha)			960	2400	4320	6000			
3	Total income (Rs)			134400	336000	604800	840000			
4	Variable cost	344181.6	128637.6	147933.24	170123.226	195641.7	224988	258736.16		
5	Fixed cost	2300	2300	2300	2300	2300	2300	2300		
6	Total cost (Rs)	346481.6	130937.6	150233.24	172423.226	197941.7	227288	261036.16		
7	Profit/Loss	-346482	-130938	-150233.2	-38023.226	138058.3	377512	578963.84		
8	B/C ratio					1.70	2.66	3.22		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	32	35	40	50	40
2	Production (Kg/ha)	7680	8400	9600	12000	9600
3	Total income (Rs)	1075200	1176000	1344000	1680000	1344000
4	Variable cost	297546.59	342178.573	393505.4	452531.2	520410.84
5	Fixed cost	2300	2300	2300	2300	2300
6	Total cost (Rs)	299846.59	344478.573	395805.4	454831.2	522710.84
7	Profit/Loss	775353.41	831521.427	948194.6	1225169	821289.16
8	B/C ratio	3.59	3.41	3.40	3.69	2.57

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Kiwi
Variety : Local

District : Dhading
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				314605			117655
a.	Human labor	Day	56	400	22400	38	400	15200
b.	Bullock labor	Day	10	1000	10000	2	1000	2000
c.	Tractor	hour			0			0
d.	Pump set, water pond	hour	15	250	3750	20	250	5000
e.	Fencing	Lum	0	0	100000			
f.	Layout	Day	5	1000	5000			
g.	Sapling	Number	330	250	82500			0
h.	Manure	Kg	9000	2	18000	10500	2	21000
i.	Fertilizer							
	Urea	Kg	15	25	375	15	25	375
	DAP	Kg	30	50	1500	30	50	1500
	Potash	Kg	30	36	1080	30	36	1080
j.	Plant protection chemical	Rs			5000	4	1500	6000
k.	Bordeaux mixture and micro nutrient	Lum			6000			6000
l.	Training and Pruning					5	1500	7500
m.	Equipments	Number	7	1000	7000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost (14%)				37752.6			14118.6
p.	Others	Rs			3000			3000
q.	Management Cost	Month	12	2000	24000	12	2000	24000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			354157.6			133573.6

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				5	10	20	28		
2	Production (Kg/ha)				1200	2400	4800	6720		
3	Total income (Rs)				174000	348000	696000	974400		
4	Variable cost	352357.6	131773.6	151539.64	174270.586	200411.2	230472.8	265043.78		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	354157.6	133573.6	153339.64	176070.586	202211.2	232272.8	266843.78		
7	Profit/Loss	-354158	-133574	-153339.6	-2070.586	145788.8	463727.2	707556.22		
8	B/C ratio					1.72	3.00	3.65		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	35	40	45	45	51
2	Production (Kg/ha)	8400	9600	10800	10800	12240
3	Total income (Rs)	1218000	1392000	1566000	1566000	1774800
4	Variable cost	304800.34	350520.396	403098.5	463563.2	533097.71
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	306600.34	352320.396	404898.5	465363.2	534897.71
7	Profit/Loss	911399.66	1039679.6	1161102	1100637	1239902.3
8	B/C ratio	3.97	3.95	3.87	3.37	3.32

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

**Crop : Kiwi
Variety : Local**

**District : Lalitpur
Seedling : Seed**

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				354705			135955
a.	Human labor	Day	57	500	28500	35	500	17500
b.	Bullock labor	Day	10	1000	10000	2	1000	2000
c.	Tractor	hour			0			0
d.	Pump set, water pond	hour	15	350	5250	20	350	7000
e.	Fencing	Lum	0	0	100000			
f.	Layout	Day	5	1500	7500			
g.	Sapling	Number	330	300	99000			0
h.	Manure	Kg	9000	2	18000	10500	2	21000
i.	Fertilizer							
	Urea	Kg	15	25	375	15	25	375
	DAP	Kg	30	50	1500	30	50	1500
	Potash	Kg	30	36	1080	30	36	1080
j.	Plant protection chemical	Rs			5000	4	1500	6000
k.	Bordeaux mixture and micro nutrient	Lum			4500			5000
l.	Training and Pruning					5	1500	7500
m.	Equipments	Number	7	1000	7000			
n.	Land lease value	Rs/Year			40000			40000
o.	Interest on variable cost (14%)				42564.6			16314.6
p.	Others	Rs			3000			3000
q.	Management Cost	Month	12	2000	24000	12	2000	24000
2	Fixed cost				2300			2300
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			1000			1000
3	Total cost	Rs			399569.6			154569.6

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO									
SN	Year	Investment Phase	2	3	4	5	6	7	
1	Production (Kg/plant)				4	10	15	22	
2	Production (Kg/ha)			960	2400	3600	5280		
3	Total income (Rs)			153600	384000	576000	844800		
4	Variable cost	397269.6	152269.6	175110.04	201376.546	231583	266320.5	306268.55	
5	Fixed cost	2300	2300	2300	2300	2300	2300	2300	
6	Total cost	399569.6	154569.6	177410.04	203676.546	233883	268620.5	308568.55	
7	Profit/Loss	-399570	-154570	-177410	-50076.546	150117	307379.5	536231.45	
8	B/C ratio					1.64	2.14	2.74	

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	30	36	40	45	38.25
2	Production (Kg/ha)	7200	8640	9600	10800	9180
3	Total income (Rs)	1152000	1382400	1536000	1728000	1468800
4	Variable cost	352208.84	405040.163	465796.2	535665.6	616015.46
5	Fixed cost	2300	2300	2300	2300	2300
6	Total cost	354508.84	407340.163	468096.2	537965.6	618315.46
7	Profit/Loss	797491.16	975059.837	1067904	1190034	850484.54
8	B/C ratio	3.25	3.39	3.28	3.21	2.38

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Kiwi
Variety : Local

District : Sindhupalchowk
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				316080			116355
a.	Human labor	Day	60	400	24000	36	400	14400
b.	Bullock labor	Day	10	1000	10000	2	1000	2000
c.	Tractor	hour			0			0
d.	Pump set, water pond	hour	15	275	4125	20	275	5500
e.	Fencing	Lum	0	0	100000			
f.	Layout	Day	5	1200	6000			
g.	Sapling	Number	330	250	82500			0
h.	Manure	Kg	9000	2	18000	10500	2	21000
i.	Fertilizer							
	Urea	Kg	15	25	375	15	25	375
	DAP	Kg	30	50	1500	30	50	1500
	Potash	Kg	30	36	1080	30	36	1080
j.	Plant protection chemical	Rs			5000	4	1500	6000
k.	Bordeaux mixture and micro nutrient	Lum			4500			5000
l.	Training and Pruning					5	1500	7500
m.	Equipments	Number	7	1000	7000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost (14%)				37929.6			13962.6
p.	Others	Rs			3000			3000
q.	Management Cost	Month	12	2000	24000	12	2000	24000
2	Fixed cost				2300			2300
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			1000			1000
3	Total cost	Rs			356309.6			132617.6

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7		
1	Production (Kg/plant)				4	10	20	30		
2	Production Kg/Ha			960	2400	4800	7200			
3	Total income (Rs)			134400	336000	672000	1008000			
4	Variable cost	354009.6	130317.6	149865.24	172345.026	198196.8	227926.3	262115.24		
5	Fixed cost	2300	2300	2300	2300	2300	2300	2300		
6	Total cost	356309.6	132617.6	152165.24	174645.026	200496.8	230226.3	264415.24		
7	Profit/Loss	-356310	-132618	-152165.2	-40245.026	135503.2	441773.7	743584.76		
8	B/C ratio					1.68	2.92	3.81		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	35	42	44	45	38.25
2	Production (Kg/ha)	8400	10080	10560	10800	9180
3	Total income (Rs)	1176000	1411200	1478400	1512000	1285200
4	Variable cost	301432.53	346647.407	398644.5	458441.2	527207.37
5	Fixed cost	2300	2300	2300	2300	2300
6	Total cost	303732.53	348947.407	400944.5	460741.2	529507.37
7	Profit/Loss	872267.47	1062252.59	1077455	1051259	755692.63
8	B/C ratio	3.87	4.04	3.69	3.28	2.43

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

**Crop : Kiwi
Variety : Local**

**District : Ramechhap
Seedling : Seed**

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				320580			116355
a.	Human labor	Day	60	400	24000	36	400	14400
b.	Bullock labor	Day	10	1000	10000	2	1000	2000
c.	Tractor	hour			0			0
d.	Pump set, water pond	hour	15	275	4125	20	275	5500
e.	Fencing	Lum	0	0	100000			
f.	Layout	Day	5	1200	6000			
g.	Sapling	Number	330	250	82500			0
h.	Manure	Kg	9000	2	18000	10500	2	21000
i.	Fertilizer							
	Urea	Kg	15	25	375	15	25	375
	DAP	Kg	30	50	1500	30	50	1500
	Potash	Kg	30	36	1080	30	36	1080
j.	Plant protection chemical	Rs			5000	4	1500	6000
k.	Bordeaux mixture and micro nutrient	Lum			6000			5000
l.	Training and Pruning					5	1500	7500
m.	Equipments	Number	10	1000	10000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				38469.6			13962.6
p.	Others	Rs			3000			3000
q.	Management Cost	Month	12	2000	24000	12	2000	24000
2	Fixed cost				2300			2300
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			1000			1000
3	Total cost	Rs			361349.6			132617.6

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO											
SN	Year	Investment Phase	2	3	4	5	6	7			
1	Production (Kg/plant)				4	10	18	25			
2	Production (Kg/ha)			960	2400	4320	6000				
3	Total income (Rs)			139200	348000	626400	870000				
4	Variable cost	359049.6	130317.6	149865.24	172345.026	198196.8	227926.3	262115.24			
5	Fixed cost	2300	2300	2300	2300	2300	2300	2300			
6	Total cost	361349.6	132617.6	152165.24	174645.026	200496.8	230226.3	264415.24			
7	Profit/Loss	-361350	-132618	-152165.2	-35445.026	147503.2	396173.7	605584.76			
8	B/C ratio					1.74	2.72	3.29			

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	30	38	42	45	38.25
2	Production (Kg/ha)	7200	9120	10080	10800	9180
3	Total income (Rs)	1044000	1322400	1461600	1566000	1331100
4	Variable cost	301432.53	346647.407	398644.5	458441.2	527207.37
5	Fixed cost	2300	2300	2300	2300	2300
6	Total cost	303732.53	348947.407	400944.5	460741.2	529507.37
7	Profit/Loss	740267.47	973452.593	1060655	1105259	801592.63
8	B/C ratio	3.44	3.79	3.65	3.40	2.51

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Banana
Variety : Local

District : Kailali
Seedling : Sucker

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				134942			97674
a.	Human labor	Day	95	400	38000	55	400	22000
b.	Bullock labor	Day	0	0	0	0	0	0
c.	Tractor	hour	6	1500	9000			0
d.	Pump set, water pond	hour	10	250	2500	15	250	3750
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	5	1200	6000			
g.	Sapling	Number	1100	10	11000			0
h.	Manure	Kg	3000	2	6000	4500	2	9000
i.	Fertilizer							
	Urea	Kg	22	26	572	30	26	780
	DAP	Kg	30	50	1500	40	50	2000
	Potash	Kg	10	37	370	12	37	444
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Cleaning					4	800	3200
m.	Equipments	Number	4	1000	4000			
n.	Land lease value	Rs/Year			30000			30000
o.	Interest on variable cost				16193.04			11720.88
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1700			1700
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			400			400
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			152835.04			111094.88

Note : From 2 years : Cost increased by 10%

BENEFIT COST RATIO				
SN	Year	Investment Phase	2	3
1	Production (Kg/plant)		9	11
2	Production (Kg/ha)		8100	9900
3	Total income (Rs)		226800	277200
4	Variable cost	151135.04	109394.9	120334.37
5	Fixed cost	1700	1700	1700
6	Total cost	152835.04	111094.9	122034.37
7	Profit/Loss	-152835.04	115705.1	155165.63
8	B/C ratio		2.04	2.27

Condition for Banana					
Human labor Requirement (First year)					
1.	Activities	Units	Labor		
1.1	Land leveling, pit digging	Number	40		
1.2	Manuring and pit filling	Number	30		
1.3	Seedling planting	Number	10		
1.4	Irrigation	Number	5		
1.5	Mulching	Number	10		
	Total		95		
2	Materials Utilization				
2.1	Manure	Kg/Plant	3		
2.2	Chemical fertilizer	Kg/Plant	0.1		
2.3	Micronutrient	Kg/Plant	1		
2.4	No of seedling	Plants/ha	1000	Mortality	10%
2.5	Life span	Years	1 to 3		
3	Production start				
3.1	By sucker	Years	2		
4	Production Process				
4.1	No of Plants & fingers	Number	900	80-100 fingers/Ghari	
4.2	Price	Rs/Dozen	28		

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Banana
Variety : William Hybrid/Tissue Culturel

District : Nawalparasi
Seedling : Sucker

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				154415			99721
a.	Human labor	Day	85	450	38250	58	400	23200
b.	Bullock labor	Day	0	0	0	0	0	0
c.	Tractor	hour	5	1500	7500			0
d.	Pump set, water pond	hour	10	225	2250	15	225	3375
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1250	3750			
g.	Sapling	Number	1100	35	38500			0
h.	Manure	Kg	3000	2	6000	4200	2	8400
i.	Fertilizer							
	Urea	Kg	35	26	910	25	26	650
	DAP	Kg	40	50	2000	35	50	1750
	Potash	Kg	15	37	555	158	37	5846
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Cleaning					4	1000	4000
m	Equipments	Number	4	800	3200			
n.	Land lease value	Rs/Year			26000			26000
o.	Interest on variable cost				18529.8			11966.52
p.	Others	Rs			2500			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			174744.8			113487.52

BENEFIT COST RATIO				
SN	Year	Investment Phase	2	3
1	Production (Kg/plant)		8	10
2	Production (Kg/ha)		7200	9000
3	Total income (Rs)		216000	270000
4	Variable cost	172944.8	111687.5	122856.27
5	Fixed cost	1800	1800	1800
6	Total cost	174744.8	113487.5	124656.27
7	Profit/Loss	-174744.8	102512.5	145343.73
8	B/C ratio		1.90	2.17

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Banana
Variety : Malbhog

District : Rupandehi
Seedling : Sucker

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				130752			84504
a.	Human labor	Day	88	400	35200	60	350	21000
b.	Bullock labor	Day	0	0	0	0	0	0
c.	Tractor	hour	8	1600	12800			0
d.	Pump set, water pond	hour	10	250	2500	15	250	3750
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1500	4500			
g.	Sapling	Number	1100	15	16500			0
h.	Manure	Kg	3000	2	6000	4000	2	8000
i.	Fertilizer							
	Urea	Kg	20	26	520	22	26	572
	DAP	Kg	30	50	1500	35	50	1750
	Potash	Kg	12	36	432	12	36	432
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Cleaning					5	500	2500
m	Equipments	Number	4	1200	4800			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				15690.24			10140.48
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			148242.24			96444.48

BENEFIT COST RATIO				
SN	Year	Investment Phase	2	3
1	Production (Kg/plant)		7	10
2	Production (Kg/ha)		6300	9000
3	Total income (Rs)		220500	315000
4	Variable cost	146442.24	94644.48	104108.93
5	Fixed cost	1800	1800	1800
6	Total cost	148242.24	96444.48	105908.93
7	Profit/Loss	-148242.24	124055.5	209091.07
8	B/C ratio		2.29	2.97

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Banana
Variety : Local

District : Chitwan
Seedling : Sucker

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				140446			96574
a.	Human labor	Day	86	500	43000	53	500	26500
b.	Bullock labor	Day	0	0	0	0	0	0
c.	Tractor	hour	6	1500	9000			0
d.	Pump set, water pond	hour	10	250	2500	15	250	3750
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	5	1200	6000			
g.	Sapling	Number	1100	15	16500			0
h.	Manure	Kg	3000	2	6000	4200	2	8400
i.	Fertilizer							
	Urea	Kg	25	26	650	30	26	780
	DAP	Kg	30	50	1500	40	50	2000
	Potash	Kg	8	37	296	12	37	444
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Cleaning					4	800	3200
m.	Equipments	Number	4	1000	4000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				16853.52			11588.88
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1700			1700
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			400			400
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			158999.52			109862.88

Note : From 2 years : Cost increased by 10%

BENEFIT COST RATIO				
SN	Year	Investment Phase	2	3
1	Production (Kg/plant)		8	9
2	Production (Kg/ha)		7200	8100
3	Total income (Rs)		201600	226800
4	Variable cost	157299.52	108162.9	118979.17
5	Fixed cost	1700	1700	1700
6	Total cost	158999.52	109862.9	120679.17
7	Profit/Loss	-158999.52	91737.12	106120.83
8	B/C ratio		1.84	1.88

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Banana
Variety : Jhapali Malbhog

District : Jhapa
Seedling : Sucker

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				128690			99121
a.	Human labor	Day	88	400	35200	55	400	22000
b.	Bullock labor	Day	0	0	0	0	0	0
c.	Tractor	hour	7	1600	11200			0
d.	Pump set, water pond	hour	10	225	2250	15	225	3375
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1250	3750			
g.	Sapling	Number	1100	12	13200			0
h.	Manure	Kg	3000	2	6000	4500	2	9000
i.	Fertilizer							
	Urea	Kg	20	26	520	25	26	650
	DAP	Kg	30	50	1500	35	50	1750
	Potash	Kg	10	37	370	158	37	5846
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Cleaning					4	1000	4000
m.	Equipments	Number	4	800	3200			
n.	Land lease value	Rs/Year			26000			26000
o.	Interest on variable cost				15442.8			11894.52
p.	Others	Rs			2500			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			145932.8			112815.52

Note : From 2 years : Cost increased by 10%

BENEFIT COST RATIO				
SN	Year	Investment Phase	2	3
1	Production (Kg/plant)		7	9
2	Production (Kg/ha)		6300	8100
3	Total income (Rs)		226800	291600
4	Variable cost	144132.8	111015.5	122117.07
5	Fixed cost	1800	1800	1800
6	Total cost	145932.8	112815.5	123917.07
7	Profit/Loss	-145932.8	113984.5	167682.93
8	B/C ratio		2.01	2.35

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Banana
Variety : William Hybrid

District : Kanchanpur
Seedling : Sucker

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				126232			84204
a.	Human labor	Day	84	400	33600	58	350	20300
b.	Bullock labor	Day	0	0	0	0	0	0
c.	Tractor	hour	8	1600	12800			0
d.	Pump set, water pond	hour	10	250	2500	15	250	3750
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1500	4500			
g.	Sapling	Number	1100	12	13200			0
h.	Manure	Kg	3000	2	6000	4200	2	8400
i.	Fertilizer							
	Urea	Kg	25	26	650	22	26	572
	DAP	Kg	35	50	1750	35	50	1750
	Potash	Kg	12	36	432	12	36	432
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Cleaning					5	500	2500
m	Equipments	Number	4	1200	4800			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				15147.84			10104.48
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			143179.84			96108.48

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO				
SN	Year	Investment Phase	2	3
1	Production (Kg/plant)		8	10
2	Production (Kg/ha)		7200	9000
3	Total income (Rs)		208800	261000
4	Variable cost	141379.84	94308.48	103739.33
5	Fixed cost	1800	1800	1800
6	Total cost	143179.84	96108.48	105539.33
7	Profit/Loss	-143179.84	112691.5	155460.67
8	B/C ratio		2.17	2.47

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Papaya
Variety : Pusa Delicious

District : Chitwan
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				136446			95674
a.	Human labor	Day	90	400	36000	55	400	22000
b.	Bullock labor	Day	0	0	0	0	0	0
c.	Tractor	hour	6	1500	9000			0
d.	Pump set, water pond	hour	10	250	2500	15	250	3750
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	5	1200	6000			
g.	Sapling	Number	1100	15	16500			0
h.	Manure	Kg	4500	2	9000	6000	2	12000
i.	Fertilizer							
	Urea	Kg	25	26	650	30	26	780
	DAP	Kg	30	50	1500	40	50	2000
	Potash	Kg	8	37	296	12	37	444
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Cleaning					4	800	3200
m	Equipments	Number	4	1000	4000			
n.	Land lease value	Rs/Year			25000			25000
o.	Interest on variable cost				16373.52			11480.88
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1700			1700
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			400			400
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			154519.52			108854.88

Note : From 3-5 years : Cost increased by 10%

BENEFIT COST RATIO						
SN	Year	Investment Phase	2	3	4	5
1	Production (Kg/plant)		15	20	28	23.8
2	Production (Kg/ha)		12000	16000	22400	19040
3	Total income (Rs)		504000	672000	940800	799680
4	Variable cost	152819.5	107154.9	117870.37	129657.405	142623.1
5	Fixed cost	1700	1700	1700	1700	1700
6	Total cost	154519.5	108854.9	119570.37	131357.405	144323.1
7	Profit/Loss	-154520	395145.1	552429.63	809442.595	655356.9
8	B/C ratio		4.63	5.62	7.16	5.54

Condition for Papaya				
Human labor Requirement (First year)				
Activities	Units	Labor		
Land leveling, pit digging	Number	40		
Manuring and pit filling	Number	25		
Seedling planting	Number	10		
Irrigation	Number	5		
Mulching	Number	10		
Total		90		
Materials Utilization				
Manure	Kg/Plant	10		
Chemical fertilizer	Kg/Plant	0.1		
Micronutrient	Kg/Plant	0.1-0.5		
No of seedling	Plants/ha	1000	Mortality	10%
Life span	Years	5		
Production start				
Seed	Years	2		
Secondary production		Vegetables		
Note : Benefit and cost are equal for secondary crops				
Production Process				
No of Plants and production	Number	800	15-20 fruits per plant	
Price	Rs/Kg	42		

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Papaya
Variety : Pusa Dwarf

District : Nawalparasi
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				130290			104321
a.	Human labor	Day	95	400	38000	58	400	23200
b.	Bullock labor	Day	7	1000	7000	1	1000	1000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	225	2250	15	225	3375
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1250	3750			
g.	Sapling	Number	1100	12	13200			0
h.	Manure	Kg	4500	2	9000	6000	2	12000
i.	Fertilizer							
	Urea	Kg	20	26	520	25	26	650
	DAP	Kg	30	50	1500	35	50	1750
	Potash	Kg	10	37	370	158	37	5846
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Cleaning					4	1000	4000
m	Equipments	Number	4	800	3200			
n.	Land lease value	Rs/Year			26000			26000
o.	Interest on variable cost				15634.8			12518.52
p.	Others	Rs			2500			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			147724.8			118639.52

BENEFIT COST RATIO

SN	Year	Investment Phase	2	3	4	5
1	Production (Kg/plant)		5	12	24	20.4
2	Production (Kg/ha)		4000	9600	19200	16320
3	Total income (Rs)		168000	403200	806400	685440
4	Variable cost	145924.8	116839.5	128523.47	141375.819	155513.4
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	147724.8	118639.5	130323.47	143175.819	157313.4
7	Profit/Loss	-147725	49360.48	272876.53	663224.181	528126.6
8	B/C ratio		1.42	3.09	5.63	4.36

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Papaya
Variety : Hybrid

District : Rupandehi
Seedling : Seed

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				133827			91729
a.	Human labor	Day	83	425	35275	57	425	24225
b.	Bullock labor	Day	0	0	0	0	0	0
c.	Tractor	hour	8	1600	12800			0
d.	Pump set, water pond	hour	10	250	2500	15	250	3750
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1500	4500			
g.	Sapling	Number	1100	15	16500			0
h.	Manure	Kg	4500	2	9000	6000	2	12000
i.	Fertilizer							
	Urea	Kg	20	26	520	22	26	572
	DAP	Kg	30	50	1500	35	50	1750
	Potash	Kg	12	36	432	12	36	432
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Cleaning					5	500	2500
m	Equipments	Number	4	1200	4800			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				16059.24			11007.48
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			151686.24			104536.48

BENEFIT COST RATIO							
SN	Year	Investment Phase	2	3	4	5	
1	Production (Kg/plant)		15	22	26	22.1	
2	Production (Kg/ha)		12000	17600	20800	17680	
3	Total income (Rs)		504000	739200	873600	742560	
4	Variable cost	149886.2	102736.5	113010.13	124311.141	136742.3	
5	Fixed cost	1800	1800	1800	1800	1800	
6	Total cost	151686.2	104536.5	114810.13	126111.141	138542.3	
7	Proffit/Loss	-151686	399463.5	624389.87	747488.859	604017.7	
8	B/C ratio		4.82	6.44	6.93	5.36	

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Pomegranate
Variety : Bedana

District : Ramechhap
Seedling : Cutting

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				98260			77900
a.	Human labor	Day	55	400	22000	33	400	13200
b.	Bullock labor	Day	6	1000	6000	1	1000	1000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	200	2000	15	200	3000
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	4	1000	4000			
g.	Sapling	Number	330	25	8250			0
h.	Manure	Kg	2500	1.4	3500	5000	2	10000
i.	Fertilizer							
	Urea	Kg	15	26	390			
	DAP	Kg	25	50	1250			
	Potash	Kg	10	37	370			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and Micro nutrient	Lum			3000			4000
l.	Training and Pruning					4	800	3200
m.	Equipments	Number	4	1000	4000			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11791.2			9348
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1700			1700
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			400			400
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			111751.2			88948

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO								
	No of plants in production :				260	Price (Rs/Kg) :		75
SN	Year	Investment Phase	2	3	4	5	6	7
1	Production (Kg/plant)				2	8	12	15
2	Production (Kg/ha)				520	2080	3120	3900
3	Total income (Rs)				39000	156000	234000	292500
4	Variable cost	110051.2	87248	95972.8	105570.08	116127.1	127739.8	140513.78
5	Fixed cost	1700	1700	1700	1700	1700	1700	1700
6	Total cost	111751.2	88948	97672.8	107270.08	117827.1	129439.8	142213.78
7	Profit/Loss	-111751	-88948	-97672.8	-68270.08	38172.91	104560.2	150286.22
8	B/C ratio					1.32	1.81	2.06

SN	Year		8	9	10	11-15 Yr	
1	Production (Kg/plant)		18	25	30	24	
2	Production (Kg/ha)		4680	6500	7800	6240	
3	Total income (Rs)		351000	487500	585000	468000	
4	Variable cost		154565.15	170021.67	187023.8	205726.2	
5	Fixed cost		1700	1700	1700	1700	
6	Total cost		156265.15	171721.67	188723.8	207426.2	
7	Profit/Loss		194734.85	315778.33	396276.2	260573.8	
8	B/C ratio		2.25	2.84	3.10	2.26	

Condition for Pomegranate				
Human labor Requirement (First year)				
Activities	Units	Labor		
Land leveling, pit digging	Number	25		
Manuring and pit filling	Number	15		
Seedling planting	Number	5		
Irrigation	Number	5		
Mulching	Number	5		
Total		55		
Materials Utilization				
Manure	Kg/Plant	20-30		
Chemical fertilizer	Kg/Plant	0.1-0.5		
Micronutrient	Kg/Plant	0.1-0.5		
No of seedling	Plants/ha	300	Mortality	10%
Life span	Years	15		
Production start				
Grafted seedlings	Years	3		
By seed	Years	5		
Secondary production		Vegetables		
Note : Benefit and cost are equal for secondary crops				
Production Process				
No of Plants and production	Number	260	100-150 fruits per plant	
Price	Rs/Kg	75		

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Pomegranate
Variety : Local

District : Sindhupalchok
Seedling : Seed/Cutting

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				91405			72075
a.	Human labor	Day	54	350	18900	32	350	11200
b.	Bullock labor	Day	6	1000	6000	1	1000	1000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	175	1750	15	175	2625
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1250	3750			
g.	Sapling	Number	330	20	6600			0
h.	Manure	Kg	2500	1.5	3750	4500	1.5	6750
i.	Fertilizer							
	Urea	Kg	20	26	520			
	DAP	Kg	25	50	1250			
	Potash	Kg	5	37	185			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2500			3000
l.	Training and Pruning					4	1000	4000
m.	Equipments	Number	4	800	3200			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				10968.6			8649
p.	Others	Rs			2500			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			104173.6			82524

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	6	7
1	Production (Kg/plant)				3	6	12	15		
2	Production (Kg/ha)			780		1560	3120	3900		
3	Total income (Rs)			62400		124800	249600	312000		
4	Variable cost	102373.6	80724	88796.4	97676.04	107443.6	118188	130006.81		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	104173.6	82524	90596.4	99476.04	109243.6	119988	131806.81		
7	Profit/Loss	-104174	-82524	-90596.4	-37076.04	15556.36	129612	180193.19		
8	B/C ratio						2.08	2.37		

SN	Year	8	9	10	11-15 Yr
1	Production (Kg/plant)	18	25	30	24
2	Production (Kg/ha)	4680	6500	7800	6240
3	Total income (Rs)	374400	520000	624000	499200
4	Variable cost	143007.49	157308.239	173039.1	190343
5	Fixed cost	1800	1800	1800	1800
6	Total cost	144807.49	159108.239	174839.1	192143
7	Profit/Loss	229592.51	360891.761	449160.9	307057
8	B/C ratio	2.59	3.27	3.57	2.60

**AVERAGE COST OF PRODUCTION AND GROSS PROFIT
PER HECTARE**

Crop : Pomegranate
Variety : Local

District : Nuwakot
Seedling : Seed/Cutting

SN	Particulars	Unit	Quantity	First year Price	Value in Rs	Quantity	Second year Price	Value in Rs
1	Variable cost				94312			70250
a.	Human labor	Day	52	350	18200	30	350	10500
b.	Bullock labor	Day	6	1000	6000	1	1000	1000
c.	Tractor	hour	0	0	0			0
d.	Pump set, water pond	hour	10	250	2500	15	250	3750
e.	Fencing	Lum	0	0	0			
f.	Layout	Day	3	1200	3600			
g.	Sapling	Number	330	25	8250			0
h.	Manure	Kg	3000	1.5	4500	4500	1.5	6750
i.	Fertilizer							
	Urea	Kg	18	26	468			
	DAP	Kg	25	50	1250			
	Potash	Kg	12	37	444			
j.	Plant protection chemical	Rs			2500	2	1500	3000
k.	Bordeaux mixture and micro nutrient	Lum			2000			500
l.	Training and Pruning					5	850	4250
m.	Equipments	Number	4	900	3600			
n.	Land lease value	Rs/Year			20000			20000
o.	Interest on variable cost				11317.44			8430
p.	Others	Rs			3000			2500
q.	Management Cost	Month	12	1500	18000	12	1500	18000
2	Fixed cost				1800			1800
a.	Land tax	Rs			300			300
b.	Water tax	Rs			500			500
c.	Depreciation cost of farm equipments	Rs			500			500
d.	Repair and maintenance of farm equipments	Rs			500			500
3	Total cost	Rs			107429.44			80480

Note : From 3-15 years : Cost increased by 10%

From 16-25 years : Cost same of 15 years but production decrease by 20%

BENEFIT COST RATIO										
SN	Year	Investment Phase	2	3	4	5	6	7	8	9
1	Production (Kg/plant)				3	8	12	15		
2	Production (Kg/ha)			780	2080	3120	3900			
3	Total income (Rs)			58500	156000	234000	292500			
4	Variable cost	105629.4	78680	86548	95202.8	104723.1	115195.4	126714.93		
5	Fixed cost	1800	1800	1800	1800	1800	1800	1800		
6	Total cost	107429.4	80480	88348	97002.8	106523.1	116995.4	128514.93		
7	Profit/Loss	-107429	-80480	-88348	-38502.8	49476.92	117004.6	163985.07		
8	B/C ratio					1.46	2.00	2.28		

SN	Year	8	9	10	11-15 Yr	16-25 Yr
1	Production (Kg/plant)	18	20	20	21	16.8
2	Production (Kg/ha)	4680	5200	5200	5460	4368
3	Total income (Rs)	351000	390000	390000	409500	327600
4	Variable cost	139386.42	153325.061	168657.6	185523.3	204075.66
5	Fixed cost	1800	1800	1800	1800	1800
6	Total cost	141186.42	155125.061	170457.6	187323.3	205875.66
7	Profit/Loss	209813.58	234874.939	219542.4	222176.7	121724.34
8	B/C ratio	2.49	2.51	2.29	2.19	1.59

